DOCUMENT RESUME

ED 372 239 CE 066 850

AUTHOR	Groff, Warren
TITLE	Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities. Human Resource Development. Orange County Cluster.
PUB DATE	94
NOTE	337p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC14 Plus Postage.
DESCRIPTORS	Adult Education; College Programs; Community Colleges; Computer Assisted Instruction; Computer Uses in Education; Curriculum Development; *Distance Education; *Doctoral Programs; Economic Climate; Educational Needs; Educational Practices; Futures (of Society); Higher Education; Instructional Development; *Labor Force Development; *Leadership Training; Multimedia Instruction; *Seminars; *Strategic Planning; Technological Literacy; Total Quality Management; Training Methods
IDENTIFIERS	California (Orange County); *Nova University FL

ABSTRACT

This document describes the Orange County Cluster human resources development (HRD) seminar that was conducted as part of Nova University's nontraditional practitioner-oriented, problem-solving, field-based distance education program in higher education. Discussed first are HRD in the agricultural and business industrial eras and changing HRD practices/needs in the context of cognitive synapses and electronic networks. An overview of Nova University's programs for higher education and HRD is presented. California's economic, social, and educational climate is examined, and the conceptual framework of Nova University's program to create HRD specialists is outlined and discussed within the context of the HRD needs of Orange County, California. A 114-item bibliography is included. Appendixes constituting approximately 50% of this document include seminar instructions/assignments and supplemental materials, instructional support materials, sample HRD vision and action plans, and the following seminar papers: "Development of a Vision for Communications in a Total Quality Training Facility, Fleet Training Center, San Diego" (Gail J. Palmisano) and "Development of a Video Training Model to Increase Reliability of Neonatal Instructor Grading at Crafton Hills College" (Arnold L. Kosmatka). Each seminar paper contains a bibliography and appendixes. Eighty transparency masters are included throughout the document. (MN)

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ED 372 239

TOWARD THE 21st CENTURY: PREPARING PROACTIVE VISIONARY TRANSFORMATIONAL LEADERS FOR BUILDING LEARNING COMMUNITIES

HUMAN RESOURCE DEVELOPMENT

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TOWARD THE 21st CENTURY: PREPARING PROACTIVE VISIONARY TRANSFORMATIONAL LEADERS FOR BUILDING LEARNING COMMUNITIES

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Abstract

The ultimate purpose of graduate and postgraduate education is to design programs to promote improvement in the quality of services that are provided in a variety of different contexts and systems -- health and human services, business and industry, government and public service, and education and training.

Nova University was founded in 1964. The doctoral Programs for Higher Education (PHE) were started in 1972. PHE prepares professionals involved in education and training in areas of specialization: (a) Higher Education; (b) Adult Education; and (c) Vocational, Technical, and Occupational Education (VTOE), (d) Computing and Information Technology (CIT), and (e) Health Care Education.

Human Resources Development (HRD) as a core seminar acknowledges the **centrality of learning** and the systemic nurturing of human resources. Computing and Information Technology (CIT) specialization seminars consist of Computer Information Networks and Database Management Systems. Understanding networks and systems is necessary to reengineer education and training.

This paper describes HRD in the Orange County Cluster and development tasks in creating High Performance Learners and Leaders for **Building Learning Communities** with focus on cognitive sciences and contemporary technology.

Significant concepts and their implications are drawn from numerous activities including (a) consultancies and multiple HRD and Leadership seminars; (b) the completion of a multitech online Child and Youth Studies doctoral program; (c) direct experience with Asynchronous Transfer Mode (ATM), continuous voice activated technology, and electronic books; (d) presentations at the Education Technology Conference of the New Jersey School Boards Association; (e) keynoting an International Conference on Technology Education in Taiwan; (f) advisor for several Major Applied Research Projects; (g) workshop on Strategic Planning with Total Quality Management at the Air Force Materiel Command Human Systems Center; and (h) an analysis of **Choosing the Future**.

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* * * * * * * * *

Where there is no vision,
the people perish.

Proverbs 29:18

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THINKING

> Thinking within a fixed circle of ideas tends to
> restrict the questions to a limited field.
> And, if one's questions stay in a limited field,
> so also do the answers.

Lyall Watson. Lifestyle. New York, NY: Simon and Schuster, 1979.

LEARNING TO LEARN: THE CRITICAL COMPETENCY

* * * * * * * * * *

CREATIVE ORGANIZATIONAL PROTOTYPES

> I believe that there exists a possibility for a type of organization so fundamentally more creative than the traditional, authoritarian hierarchy that it is only dimly reflected, even in the most successful, current practitioners of new management principles.

Peter Senge. Sloan School of Management, Massachusetts Institute of Technology.

* * * * * * * * * *

ABCs of 3 Rs: Rethinking for Restructuring and Revitalizing

A. Agricultural Era

During the Agricultural Era, the United States had education for the elite who attended private schools and colleges for the privileged destined for the professions. Apprenticeship training was available for people who were destined to become craftsmen. The U.S. invented the "common" elementary school and spread it, first in urban areas and then in rural areas. Then, the U.S. invented secondary education and spread it in a similar manner.

B. Business Industrial Era

The transition from an agricultural era to the business and industrial era was based on low technology and know-how and took place over a long period of time. As the U.S. emerged during the business and industrial era, the vocational track was added to the academic track. A general track was added to accommodate students whose needs were not met in the academic and vocational tracks.

Major expansion occurred in the 1940s and 1950s in all sectors of the economy, particularly manufacturing and services. Rapid advances in science and technology yielded global competition and modernization at an accelerating rate. Establishments that survived, modernized with new technology in the 1960s and early 1970s. During the late 1970s and the early 1980s, it became apparent that modernization of industrial era establishments was necessary, but insufficient. The surviving manufacturing sector establishments modernized several times with contemporary technology and then began to restructure. More important, however, a few establishments began to recognize the centrality of Human Resources Development committed to Total Quality with world class Benchmarking Standards.

Alternative education has been available since the beginning of time. There have always been two primary forms of education: (1) direct experience and (2) that which is transmitted from one member of a species to another via communications. Alternative education made considerable advances with the invention of telecommunications, a trend that will accelerate with electronic books and libraries, voice activated devices, and videoconferencing.

An analysis of alternative education for a workshop for the Department of Education of Arkansas in 1989, yielded the following categories of alternative education: contemporary traditional education (CTE), partial technological deschooling (PTD), collaborative lifelong learning (CLL), and outcomes based education (OBE) or solution based learning (SBL). In 1984, the New York Institute of Technology announced it was possible to complete a four-year degree program via personnel computer and modem. Technology intensive delivery systems were described in Any Home A Classroom (Halperin, 1984) and The Education Utility (Gooler, 1986). Nontraditional education today will be traditional education tomorrow.

Although the manufacturing sector of the economy began to fundamentally restructure in the 1980s, the service sector of the economy is lagging behind other sectors. Two extremely costly services are health and education. With regard to education, the U.S. ranks second in terms of expenditure for elementary and secondary education and ranks last or nearly last in math and all categories of science among industrialized nations. Health and education will be modernized and restructured. The key issues are: (a) based on what beliefs, values, and research; (b) designed on what principles; and (c) restructured by whom (Groff, 1991).

C. Cognitive Synapses and Communication Technologies

Leaders have begun to realize the centrality of the brain and research in the cognitive sciences. Advances in research and development yielded communication and information technologies that have made it possible to transmit data, video, and voice instantaneously and simultaneously almost anywhere in the world. Human resource development systems will be created based on contemporary research in the cognitive sciences and the latest research in communication and information technologies.

Curriculum designers must produce High Performance Learners and Workers by (1) achieving greater efficiency from contemporary programs and (2) inventing outcomes based learning -- applications and solution oriented.

A. AGRICULTURAL ERA

People	Education-Training	Outcomes
Elite	Schools and Colleges	"Professions"
Others	Apprenticeships	Craftsmen

B. INDUSTRIAL ERA

Privileged	Academic Vocational General	Quality
Disadvantaged	Drop-out	Inequality

C. ADVANCED TECHNICAL ERA

Any location a learning environment

RETHINKING, RESTRUCTURING, REVITALIZING

FROM POST - INDUSTRIAL ERA (PIE)

TO

EARLY TECHNICAL ERA (ETE)

TO

ADVANCED TECHNICAL ERA (ATE)

1970s 1980s 1990s 2000s 2010s

OVERVIEW OF PROGRAMS FOR HIGHER EDUCATION

Nova University is a nontraditional institution committed to developing practitioner oriented, problem solving, field-based doctoral programs. Nova developed doctoral program that are in the Abraham S. Fischler Center for the Advancement of Education beginning in 1972: (a) Child and Youth Studies, (b) National Education Leaders, and (c) Programs for Higher Education (PHE).

Professionals who enroll as students in PHE select one of five specializations: Adult Education; Higher Education; and Vocational, Technical and Occupational Education; Computing and Information Technology (CIT started in 1993); and Health Care Education (started in 1994).

Professional who have responsibility for vocational, technical, and occupational education, at whatever level, are admitted to the VTOE specialization in PHE. They are also admitted to the Child and Youth Studies (CYS) program which is offered in traditional and multi-tech formats.

Students enroll in clusters throughout the United States. Cluster coordinators provide assistance to students as the liaison between students and other program personnel. A regional cluster was created in the early 1980s for international students and for individuals living in remote areas. A group of 14 professionals from Taiwan enrolled in P-HRD in 1986 but stopped because of Ministry of Education mandates which have been relaxed. One student from Taiwan graduated in 1993. A Korean student graduated in 1994. The name was changed to International Cluster in 1992.

Each student completes six core seminars, two specialization seminars, four practicums, two summer institutes, comprehensives, and a Major Applied Research Project (MARP). The core seminars are held one Saturday per month during the nine month academic year. Core seminars are also offered two weeks prior to the Summer Institute and in a special format for students in the International Cluster. This format provides a means for domestic students to accelerate or catch up. Two specializations are held in conjunction with the summer institutes with some work completed (a) prior to the summer institute, (b) during the summer institute and (c) following the summer institute.

The week-long summer institutes focus on a theme and provide opportunity to hear international and national experts on the topic as well as concentrate on seminars, practicums, and PHE program requirements. Students have the opportunity to hear students' whose practicums and Major Applied Research Projects were designated as outstanding.

HUMAN RESOURCES DEVELOPMENT

Curriculum Changes

A major curriculum change was made at the meeting of the Higher Education Director's Team in February 1990. The decision involved the (a) conversion of the vocational, technical, and occupational (VTOE) specialization seminar Personnel-Human Resources Development to the core seminar Human Resources Development (HRD) beginning fall 1990, (b) addition of Leadership as a sixth core seminar beginning fall 1991, (c) addition of a VTOE Trends and Issues specialization seminar for second year students beginning 1992, (d) elimination of Learning Theory, and (e) reduction of the number of practicums from five to four.

The Human Resources Development Seminar

Human Resources Development (HRD) has its origins in Personnel - Human Resources Development (P-HRD) which was one of two seminars in the vocational, technical, and occupational specialization. The other specialization seminar is the Emergence of Vocational, Technical, and Occupational Education (E-VTOE). P-HRD and E-VTO complemented each other very well in that the first had a focus on the workforce of the future and the other had a focus on the workplaces of the future. The seminar was flexible enough to accommodate professionals employed in education and training in a variety of contexts: health and human services, business and industry, government and the military, and schools and colleges. E-VTO had a focus on anticipating the impact of technology on workplaces.

Research

Research indicates that leadership consists of three processes: (a) analysis, (b) visions, and (c) action plans; can occur at three levels: (a) self, (b) organizational, and (c) societal; and involves three sets of competencies: (a) conceptual, (b) interactive, and (c) technical.

Conceptual Framework for HRD

HRD consists of three major topics: (a) an audit of HRD in the context in which each student works, (b) creating a vision for an area of responsibility, and (c) developing a multi-year HRD action plan for the vision. The audit could focus on analysis of mission, philosophy about service and shared governance, a vision, policies in handbooks and manuals, clarity in functions, and budget for HRD (see Attachment 2). A list of audit elements is in the "Instructions and Assignments" sent to students along with other useful information (see Appendix A).

HUMAN RESOURCES DEVELOPMENT

1. AUDIT HRD

MISSION
PHILOSOPHY
POLICIES
FUNCTIONS
BUDGET

2. VISION

STRATEGIC DIRECTION
PREFERRED SCENARIO
ORGANIZATIONAL DEVELOPMENT PLAN

3. HRD PLAN

CONCEPTUAL SKILLS
HUMAN RELATIONS SKILLS
TECHNICAL SKILLS
BUDGET

CALIFORNIA: THE CONTEXT

Demographic and Social Variables

Hodgkinson (1986) provided some baseline information that can be used to view the context for Human Resources Development in California. "...one out of every nine Americans is a Californian. It would take the population of 60 Alaskas to make one California. If California were a nation, it would be one of the top ten most powerful in the world on almost any measure" (Hodgkinson, 1986, p. 1). California has a very diversified population and economy.

Two-thirds of the world's immigration is coming to the U.S. Although Florida and Texas are receiving large numbers of immigrants, the largest number and the most culturally diverse people have immigrated to California. California is receiving one-third of the world's immigration. Immigrants are coming from a wide variety of nations with distinct cultures -- Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, Hawaiians, Samoans, and Guamians. Immigrants from Pacific Rim countries do not necessarily share close cultural bonds and resent being lumped together as "Asians." Similarly, immigrants have come from Mexico, Cuba, Puerto Rico, Equador, Dominican Republic, Columbia, Argentina, Nicaragua, and El Salvador. Immigrants from Latin American countries do not necessarily share close cultural bonds and resent being lumped together as "Hispanics." The above-mentioned data reflect legal immigration. Data for illegal immigration is less precise.

Migration within the U.S. is another phenomena that is unique to California. "Fifteen percent of California's population was born in another country while 55% was born in another state" (Hodgkinson, 1986, p. 2).

The demographic data begin to communicate a indication about social and economic issues that must be addressed by education, health, and social service sectors of an economy. Education is essentially a state function in the U.S. and children must be educated. Imagine the complex set of issues facing the public schools, particularly for illegal immigrants. Imagine an educator at any level attempting to communicate with a group of culturally diverse students whose primary, perhaps only, language is other than English. Imagine the complex set of issues faced by health and social services and public libraries attempting to respond to the needs of vast cultural differences. Ponder opportunities for "community" colleges and programs that prepare educators and service providers, and technical education programs.

California is a natural bridge to Asia and Latin America because of diversity in population and economy.

Economic Variables

A presentation in 1993 on "Workforce Preparation And The Future of California" by Mr. Thomas P. Nagle, Director of the California Employment Development Department, listed the following challenges:

- Economic downturn,
- Pressures on California's State budget,
- Challenges of demographic changes,
- Changes in industry and occupational growth opportunities,
- Employers need for a skilled workforce,
- Absence of a link between training and economic development, and
- Absence of a coordinated, strategic workforce preparation system.

Between 1982 and 1992, California added jobs at an annual rate of 2.4%, while the rest of the nation averaged only 2.1% (Nagle, 1993). However, the current recession has greatly affected California. The state added over 261,400 jobs in 1990, but lost 140,900 nonagricultural jobs in 1991 and 218,900 in 1993. California ranks first among the states with 13.9% of its 30.4 million people employed in defense (see Attachment 3).

Technological

Silicon Valley was a major force for California's economic boom. The San Diego Supercomputer Center at the University of California, San Diego, is one of five National Science Foundation supercomputing centers. There are at least 36 corporations producing Asynchronous Transfer Mode (ATM) technology in the U.S. The ATM Forum is located in Mountain View. Pacific Bell's California Research and Education Network (CalREN) trust is funding high-speed network services, including ATM Cell Relay service, to teams to create innovative applications to different populations.

Occupational Analysis

Occupational forecasting attempts to anticipate the competencies and skills, number, and type of employees needed in the workforce. The U.S. must develop better ways to (a) anticipate changes in workplaces and (b) prepare and update workforces. The Census Bureau collects information about employment outlook using ten major categories, four of which are labeled goods (agriculture, mining, construction, and manufacturing) and six of which are services (finance, government, transportation and utilities, self-employed, wholesale and retail, and services). The Bureau of Labor Statistics projects the number of jobs by category (see Attachment 4). Economic establishments are a composite of many types of businesses including manufacturing and services (see Attachment 5).

Military Employment in 10 Largest States (total U.S. military employees = 2,223,015)

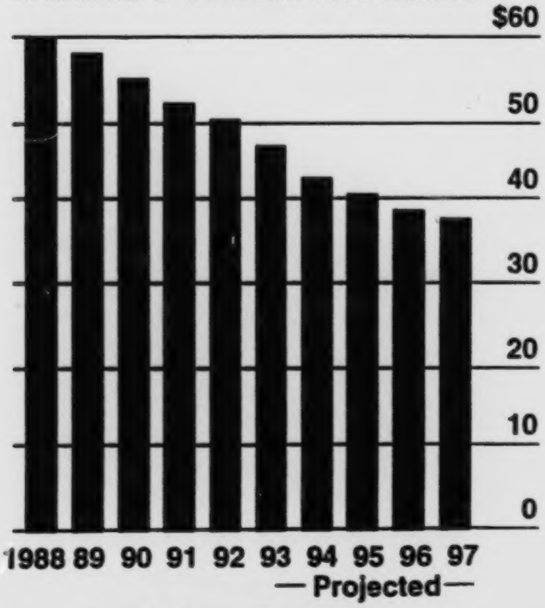
State	Population	% of nation's population *	Number of DOD employees **	% of total DOD employees
1. California	30.4 million	12.1	309,991	13.9
2. New York	18.1 million	7.2	42,705	1.9
3. Texas	17.3 million	6.9	169,000	7.6
4. Florida	13.3 million	5.3	107,425	4.8
5. Pennsylvania	12.0 million	4.7	56,438	2.5
6. Illinois	11.5 million	4.6	51,712	2.3
7. Ohio	10.9 million	4.3	47,035	2.1
8. Michigan	9.4 million	3.7	20,010	0.9
9. New Jersey	7.8 million	3.1	37,096	1.7
10.North Carolina	6.7 million	2.7	115,571	5.2

**Resident state population as of Dec. 30, 1991*
***Military and civilian employees as of Sept. 30, 1991*
Sources: Department of Defense and U.S. Bureau of the Census

California Defense Sector

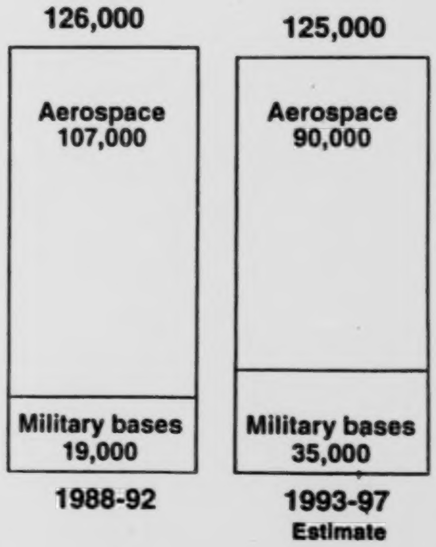
- Defense spending in California

In billions of constant 1992 dollars

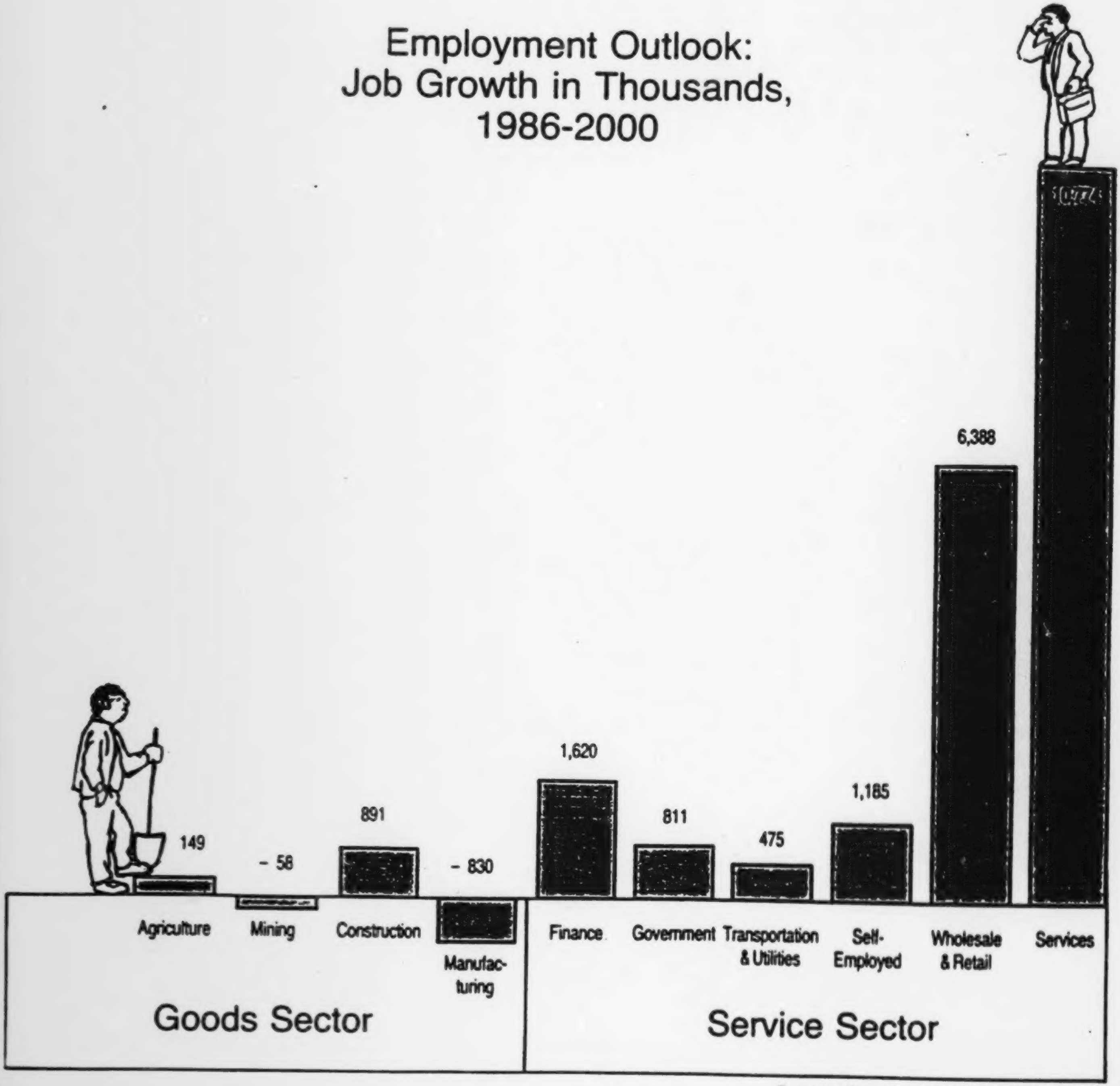


Source: Commission on State Finance

- Defense - related job losses in California



Employment Outlook: Job Growth in Thousands, 1986-2000



Source: Bureau of Labor Statistics, 1987

ECONOMIC ESTABLISHMENTS

1. Agricultural services, forestry, fisheries
2. Mining
3. Contract construction
4. Manufacturing
5. Transportation & public utilities
6. Wholesale trade
7. Retail trade
8. Finance, insurance, real estate
9. Services
10. Non-classified

MANUFACTURING (#4) ESTABLISHMENTS

1. Food & Kindred Products
2. Tobacco
3. Textile Mill Products
4. Apparel & Other Textile Products
5. Lumber & Wood Products
6. Furniture & Fixtures
7. Paper & Allied Products
8. Printing & Publishing
9. Chemical & Allied Products
10. Petroleum & Coal Products
11. Rubber & Misc. Plastic Products
12. Leather & Leather Products
13. Stone, Clay & Glass Products
14. Primary Metal Industries
15. Fabricated Metal Products
16. Machinery, Except Electrical
17. Electric & Electronic Equipment
18. Transportation Equipment
19. Instruments & Related Products
20. Miscellaneous Manufacturing Industries
21. Administrative & Auxiliary

SERVICES (#9) ESTABLISHMENTS

1. Hotels & Lodging Places
2. Personnel Services
3. Business Services
4. Auto Repair Services
5. Miscellaneous Repair Services
6. Amusement & Recreational Services
7. Health Services
8. Legal Services
9. Educational Services
10. Social Services
11. Museums, Botanical, Zoological
12. Membership Organizations
13. Miscellaneous Services
14. Administrative & Auxiliary

Postsecondary Education

The California Master Plan in 1960 created a tripartite system of postsecondary education consisting of The California Community Colleges with 100+ campuses, The California State University system with 20 campuses, and The University of California with nine campuses.

A Commission for the Review of the Master Plan for Higher Education published The Challenge of Change: A Reassessment of the California Community Colleges (1986). The report focused on the changes the California Community Colleges needed to make to "achieve the goals of universal access, individual success, and education which is both high quality and accountable to the people of California" (p. 1). The Challenge of Change discussed seven areas under "Mission and Function:" mission, transfer education, vocational education, state-funded noncredit adult education, fee-based community service and institutional research and evaluation. The report stated:

> The demand for vocational education in the Community Colleges over the past twenty-five years has increased dramatically, with students interested in entry-level occupational skills, job skills upgrading, and retraining opportunities.

The Commission recommended:

> That the Board of Governors and the State Board of Education, with appropriate consultation, help local high schools and Community Colleges to establish closely articulated "2+2" programs -- two years of high school, two years in a Community College -- where such programs would meet local student and employer needs, and that in cooperation with the Trustees of the California State University, with appropriate faculty consultation, develop articulated "2+2+2" vocational programs leading to the baccalaureate degree where appropriate.

The Challenge of Change was followed by California Community College Reform (1987), Basic Agenda Addendum (1987), and Comprehensive Analysis (1988).

Scholars predict the twenty-first century will be known as the "Pacific Century." The California Assembly passed Resolution No. 82 (1986) requesting all segments of higher education to report to the California Postsecondary Education Commission on the role of institutions and particular campuses in meeting the needs of the state in furthering its economic position and leadership within the Pacific Rim region. The Pacific Century and the California Community Colleges (1987) set the stage for focused reports

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on a Proposal for Strengthening International Study-Abroad Programs (1987) and Report of a Study of "Study Abroad" Programs, 1984-88 (1989) (see Attachment 6 for districts).

California led the world with its investment in community colleges, a model that was emulated elsewhere. Because of California's prolonged economic slump, the system is threatened at a time when an increasingly diverse society should benefit from the system. The Board of Governors formed the Commission on Innovation in November 1991 to recommend new ways to tackle the crisis. Choosing the Future (1993) describes goals, strategies, and actions that are required to put the colleges on an innovative path toward the 21st Century. The report identifies issues as (a) economic restructuring, (b) pluralism, (c) access, and (d) the fiscal crisis (see Appendix B). The proposed agenda consists of three broad directions:

1. Enhanced Learning Opportunities (ELO).
2. Expand Economic Development Role (EEDR).
3. Modernize Operations (MO).

The Commission has developed 13 specific strategies and 73 action steps that could be taken to implement the recommendations over the next five to ten years. A few of these ideas are listed and discussed later in this report:

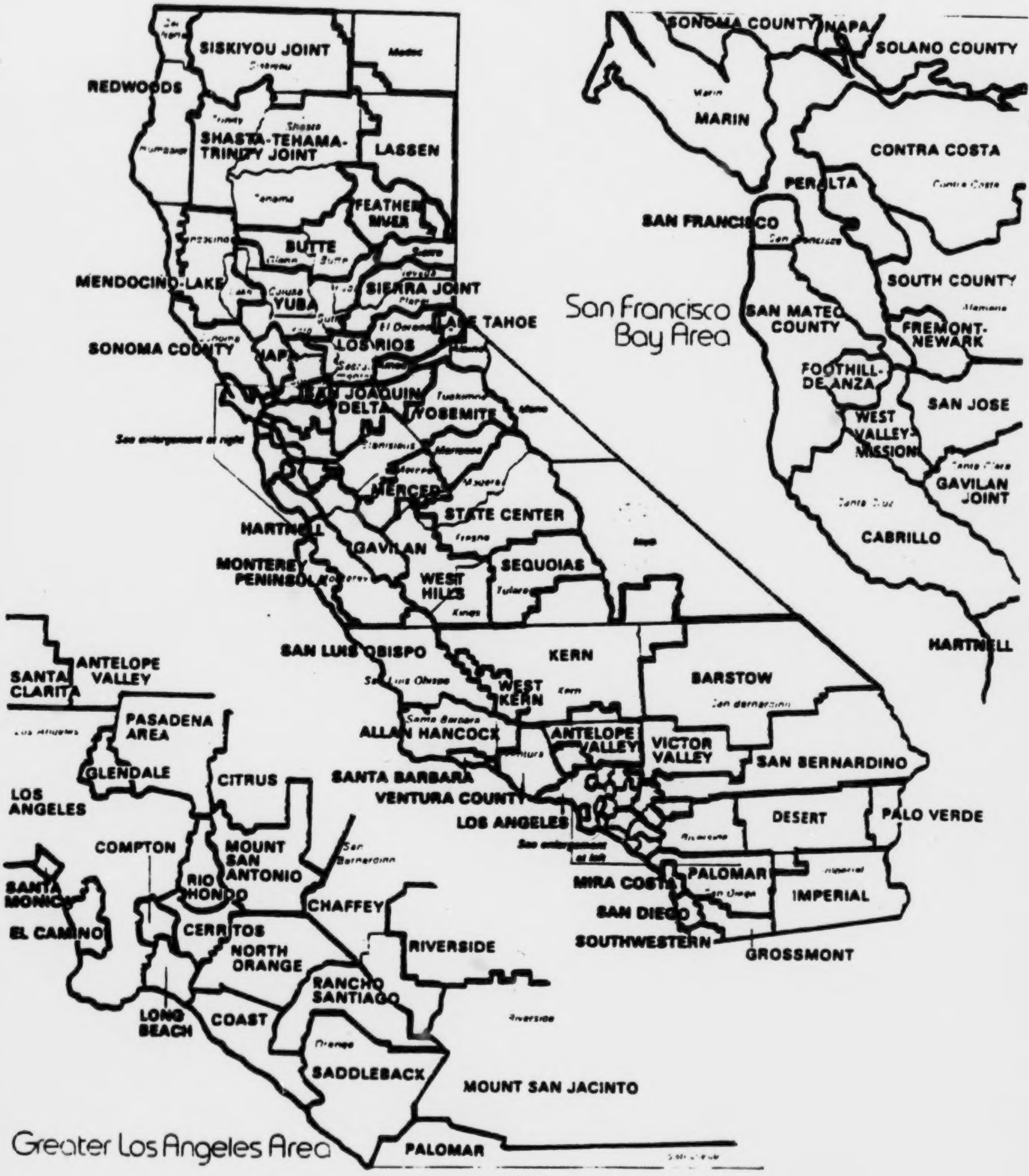
1. ELO Strategy 3. Introduce an articulated system of degrees and certificates that sets clear milestones for academic accomplishments, progress toward transfer to four-year universities, and advancement on professional career ladders.
2. EEDR Strategy 4. Support community colleges to collaborate with other agencies to develop Workforce Transition Centers which provide one-stop education, training, and employment services.
3. MO Strategy 1. Adopt collaborative planning and management processes at each college to assure continuous improvements in quality and efficiency.
4. MO Strategy 2. Develop a pervasive technological infrastructure at and between colleges to equip them to increase productivity, enhance management efficiency, and become premier institutions for the application of technology to learning.

Action 1. Initiate an Institute for Technology and Distance Education. The colleges should establish a new system-level Institute for Technology and Distance Education (INTECH) to be the focal point for increasing the system's technology capacity.

Action 2. Dramatically Expand Distance Education. The colleges should capitalize on their current capabilities in order to provide distance education to a much larger proportion of their students.

Action 3. Invest Now in Advanced Instructional Technology and Faculty Development. The "bottom line" is learning to learn about HUMAN RESOURCES DEVELOPMENT.

CALIFORNIA COMMUNITY COLLEGE DISTRICTS



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HUMAN RESOURCES DEVELOPMENT: A CONCEPTUAL FRAMEWORK

The philosophy of Human Resources Development (HRD) has changed over the past century. During the emergence of the industrial era, the U.S. needed a mass of low skilled and unskilled labor to grow food and extract raw material from earth and to manufacture goods, relatively unsophisticated durable products, in factories which were located primarily in cities. The U.S. accepted large numbers of immigrants, primarily from Eastern and Western Europe, and "consumed foreigners" almost like other raw materials, with little regard to civil human rights. The rise of the civil rights movement and the need for more highly skilled workers gave birth to the expansion era of the 1950s and 1960s, typified by the fact that the U.S. was adding a new two-year college each and every week during one year. Highly skilled workers became more highly valued during this period. Schools and colleges began to shift emphasis from primarily sorting factories to separate "good" students who could "learn" what education knew how to present from lesser quality raw material who could not "learn" through the range of ways subjects were presented, a shift from "inputs" to "process." A more significant investment was made in (a) research and development (R&D) and (b) human resources development (HRD), particularly education and training by the private sector.

The investment in R & D and HRD yielded advances in (a) science and technology and (b) know-how techniques. Examples of advances in science and technology in manufacturing include Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) which were free-standing initially but then were integrated into Computer Integrated Manufacturing Systems (CIMS). Examples of know-how include Statistical Process Control (SPC) and Statistical Quality Control (SQC), techniques that were adopted by other cultures more rapidly that in the U.S. and gave rise to more elaborate total quality strategies. Advances in science and technology, particularly communication and information technology, gave rise to the modernization era in manufacturing in the 1970s and 1980s. People who could access, process, and output high quality, just-in-time, "intelligence" became viewed as an asset to the enterprise.

The modernization era of the 1980s in manufacturing continued with increasingly complex technology, the result of the investment in R & D and HRD. Manufacturing plants and entire industries modernized several times to remain viable in light of global competition. Because education could not keep pace with modernizations, many manufacturing and several service establishments expanded their capacity to (a) diagnose training needs of employees and (b) prepare and deliver training programs. This is particularly true for establishments that develop a new product line, retool with contemporary technology, or improve the efficiency and/or effectiveness of an existing product or service through new know-how techniques. Many of the corporate trainers are members of the American Society for Training and Development (ASTD). Many leading corporations have in-house education programs, education and training facilities, and some operate degree-granting institutions (Eurich, 1985). Motorola, RCA, Xerox, and Rand are examples of corporations that have training facilities. Rand Corporation grants the Ph.D. and Arthur D. Little and Wang offer the Masters of Science degrees. The National Technological University (NTU) offers a wide range of courses via satellite taught by faculty of 45 leading engineering universities and awards master's degrees in selected disciplines.

Manufacturing establishments began to fundamentally restructure in the 1980s. Health care services began to modernize in the 1980s and then began to restructure. Restructuring will spread to other sectors of the services. Modernization and restructuring had implications for HRD.

An analysis of trends in organizational development was made for the variables of (a) mission, (b) program, (c) people, and (d) technology for the leadership competencies of (a) analysis, (b) visioning, and action plan development (see Attachment 7). A clear concise mission statement is necessary, but insufficient. If an establishment wants to have maximum output from its human resources, it must involve employees in clarifying the mission for their area of responsibility and co-creating a preferred scenario and multi-year action plan with continuous quality improvement toward world class benchmark standards.

Second, education and training must shift from free standing disconnected units of study organized around disciplines delivered at the convenience of the provider to outcomes that benefit the consumer and impact on problems with solutions. What competencies and skills must a care giver and service provider have to deal with the myriad of problems of today's children and youth and families? How should the learning experiences be organized in an articulated system of Certificates of Initial Mastery and Certificates of Advanced Mastery related to high quality learner-workers?

Third, people must be viewed as a valued asset, to be empowered through self-directed work teams based on research from the cognitive sciences. Fourth, the U.S. must find ways to anticipate the impact of science and technology on workplaces and workforces and adjust education and training to include distance education delivery systems through contemporary communication and information technology. These items will be discussed elsewhere in this report.

TRENDS IN ORGANIZATIONAL DEVELOPMENT

Variables in Organizations

Leadership Competencies	Mission	Program	People	Technology
Analysis	Mission +++ Vision: Content & Process	From Free Standing to Connected	From A Cost To The Valued Asset	Anticipate Impact on Workplace and Workforce
Visioning	Vision & Scenario Creation and CO-CREATION	From Input & Process to OUTCOMES	Empowered Self-Directed Work TEAMS	Education & Training: Any Topic Anywhere JUST-IN-TIME
Action Plan	Continuous Improvement toward World Class BENCHMARK STANDARDS	Client Satisfaction: Output of Service & IMPACT ON CONSUMER	People Sciences Beyond Traditional COGNITIVE SYNAPSES	Databases Networks Electronic Systems CYBERSPACE SOLUTIONS

Bottom Line: "Learning to Learn" Human Resources Development

TRANSFORMATIONAL LEADER

CREATING A FUTURE

Previous reports have been presented in the logical progression of the seminar based on the HRD competencies of analysis, vision creation and co-creation, and action plan development and co-development. This report will follow that framework and build upon work with Taiwan and several recommendations in Choosing The Future and other documents.

A cover memo, instructions and assignments information, and a study guide were sent to students in March. The cover memo provided the conceptual framework for HRD: (a) analysis, (b) vision, and (c) action plan. Another packet contained an article on the evolution of technology and an executive summary of Printing 2000 (1990).

Assignment #1 was an analysis of HRD in the student's work context. Specifications for the paper are included in the instructions. The paper is to be sent to the faculty member one week prior to the first session. The logic of this request is three-fold. First, although basic concepts for HRD are specified in the study guide and the textbook, the concepts should be understood in the contexts in which professionals work. For example, the history of HRD can be discussed in terms of the extent to which humans are viewed as a critical resource and for which programs are available to help in their development. Second, students enrolled in PHE expect teachers to be prepared. Teachers can be better prepared if they know something about the contexts represented by the professionals in the seminar. Third, learning experiences consist of acquiring the substance of the seminar and complying with the format requirements of PHE. Evaluation of papers prior to each session provides an opportunity to emphasize substance overlooked in the papers and provide feedback and assistance for the group and individuals during breaks and after class.

Orange County Cluster

First Session

An orientation to Nova and PHE was conducted by the cluster coordinator the evening prior to the first session. Seminar sessions are divided into early morning (EM), late morning (LM), early afternoon (EA), and late afternoon (LA) periods. EM consisted of an overview of HRD, discussion of basic concepts, and five minute presentations of HRD in students' work contexts. Professionals are given a sheet on which to record significant concepts and the implications for their work context (see Attachment 8).

Sixteen of the 17 professionals were from the southern California area, one was from Reno, Nevada. Three students were taking HRD as their first seminar. For two

RETHINKING, RESTRUCTURING, REVITALIZING

SIGNIFICANT CONCEPTS	IMPLICATIONS
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

professionals, HRD was the second seminar, six their third, one his fifth, two their seventh seminar, and for one student his eighth. Three students are enrolled in the Computer and Information Technology (CIT) specialization which was started in 1992-93.

LM consisted of discussion of basic concepts of HRD, the need for clarity in mission and vision, and creating a vision and a preferred scenario. Clarity in mission and vision with a preferred scenario is a necessary prerequisite to clarity in action plan and effective use of resources. The extent to which people participate in the co-creation of mission and vision is directly related to their commitment to transforming a preferred scenario into reality. However, very few employees are involved in a discussion to clarify mission or vision for an establishment or a unit.

Human Resources Development through Strategic Planning

HRD strategies include strategic planning, continuous quality improvement, empowerment of self-directed workteams, and total quality management. Strategic planning consists of an audit of an establishment's internal environment and an assessment of the external environment for the purpose of creating visions and scenarios of the future. Then, the establishment links resources to the strategic directions.

Visioning and scenario development has evolved over the past several decades. During the 1960s and 1970s most of whatever energy was devoted to strategic planning assumed the continuation of contemporary traditional education as the dominant means of human resources development. Visions were based on a number of internal and external demographic, social, economic, technological and governmental planning variables. Scenarios that were developed were classified as (a) expansion, (b) steady state, or (c) contraction based on the mix of above-mentioned variables.

The University of Wisconsin System had one of the most sophisticated planning systems in the 1970s with categories for assumptions about future conditions and categories for goals. In 1977-78, North Central Technical College, Ohio, began a planning process which included a detailed analysis of contextual variables which were extrapolated through the 1980s for business, engineering, health, and public service programs. A College Planning and Budgeting Committee provided a great deal of direction for this function. Analysis yielded assumptions that were specified using ten categories and goals and objectives using seven categories at institutional and program levels (Groff, 1986a). Second, NCTC specified strategic directions as follows:

1. Information Processing
    A. Computer Literacy
    B. The Office of the Future or the Paperless Office

2. Electronic Delivery of Educational Programs and Services
    A. Interactive Diagnostic and Instructional Systems
    B. Telecommunications and Teleconferencing Systems
3. High Technology
    A. Advanced Machine Tool Design
    B. Microelectronics
    C. Robotics
    D. Lightwave Circuit Technology

Third, operating dollars were linked to unit objectives.

NCTC then created a conceptual framwork with data and information processing at the core of its business of primary and support programs (see Attachment 9). The conceptual framework was the basis on which decisions were made for certificate and degree program upgrading, HRD programs, technology purchases, and building renovations. Several projects were the outgrowth of this effort.

Enrollment Management

NCTC developed the capability to track students by course by program by term and use the information to predict continuing student enrollments. NCTC also developed the capability to more accurately estimate new traditional student enrollment by high school within a school district. The Ohio Board of Regents provided college participation information by high school, and the college was able to determine its market share as well as friends of the college who helped students shape career and college decisions.

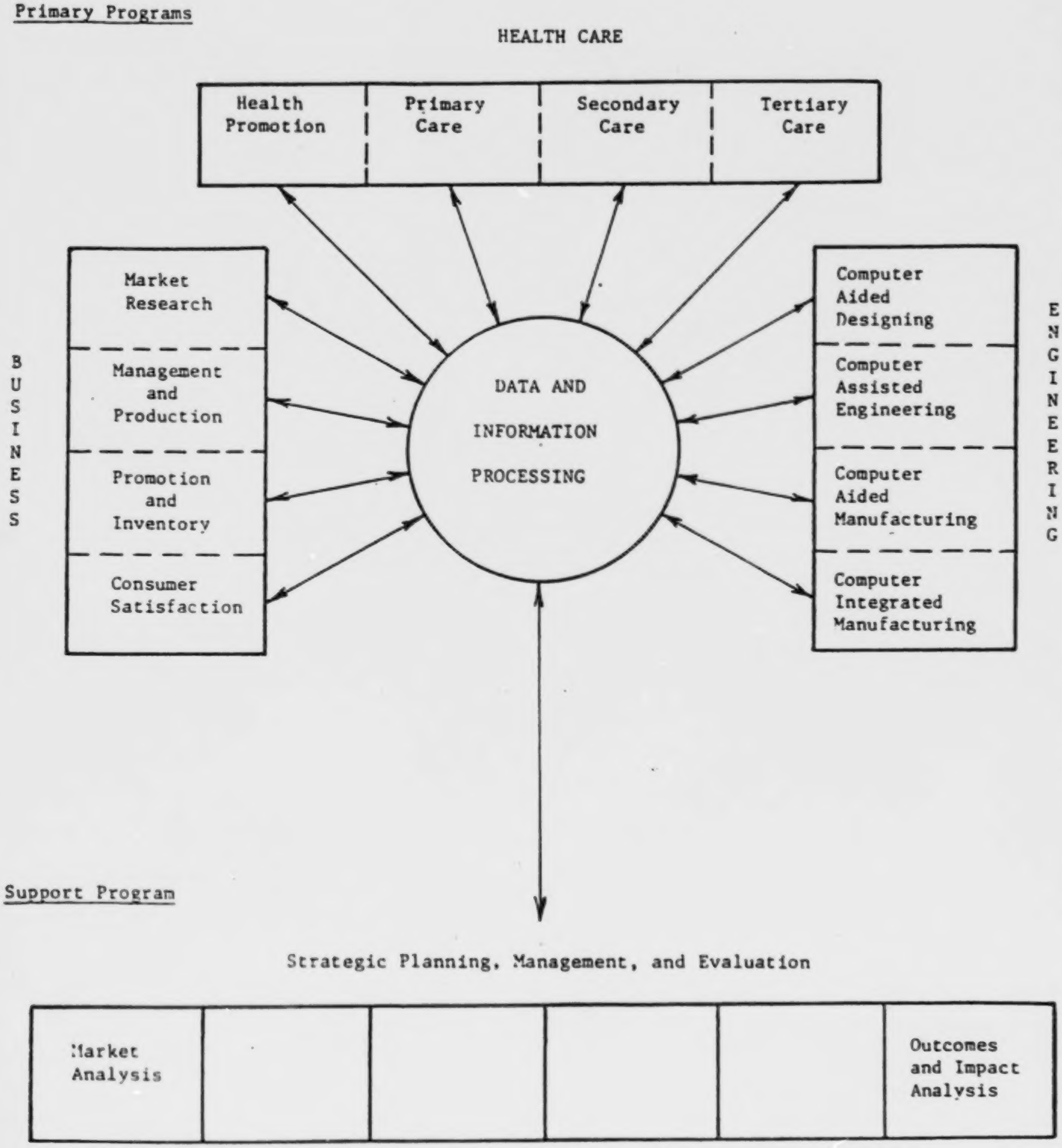
NCTC began to work on articulation agreements with area high schools in the late 1970s. In the early 1980s, NCTC had 2+2+2 agreements for several engineering technician programs with the University of Toledo.

NCTC also began to clarify the multiple ways to get credit: transfer, proficiency, portfolio and directed study. Policies and procedures were specified which became part of documents, including handbooks (see Attachment 10).

International Trade Specialization in Business Programs

Analysis of economic data, establishments and jobs, indicated that many corporations were involved in exporting and importing commerce. Three pump manufacturing companies that produced pumps that ranged from small pumps to bail out a rowboat to large pumps used in major construction. This led to an international trade specialization consisting of three courses in the business programs in 1980. The three courses were (a) Introduction to International Trade, (b) International Economics and (c) International Transportation and Documentation (see Attachment 10). In the Introduction to International Trade, students pursued projects about "Important Elements in Understanding Other Countries" (see

DATA AND INFORMATION PROCESSING AS THE CORE OF THE HIGH TECHNOLOGY INFORMATION SOCIETY


Primary Programs
HEALTH CARE
Health Promotion
Primary Care
Secondary Care
Tertiary Care
BUSINESS
Market Research
Management and Production
Promotion and Inventory
Consumer Satisfaction
DATA AND INFORMATION PROCESSING
Computer Aided Designing
Computer Assisted Engineering
Computer Aided Manufacturing
Computer Integrated Manufacturing
ENGINEERING
Support Program
Strategic Planning, Management, and Evaluation
Market Analysis
Outcomes and Impact Analysis

WAYS TO GET CREDIT IN BUSINESS ADMINISTRATION

COURSE	TRANSFER CREDIT	PROFICIENCY CREDIT	PORTFOLIO CREDIT	DIRECTED STUDY
125 Business Mathematics	Yes	Yes	No	Yes
141 Intro to Business Administration	Yes	No	No	Yes
160 Macro-Economics	Yes	No	No	Yes
164 Micro-Economics	Yes	No	Yes	Yes
410 Principles of Selling	Yes	Yes	Yes	No
420 Labor Management	Yes	No	Yes	Yes
430 Traffic/Transportation	Yes	No	Yes	Yes
440 Busines Ethics	No	No	No	No
470 Case Studies in Business	No	No	No	No
475 Intro. to Banking and Insurance	No	No	No	No
510 Career Planning in Business	Yes	No	No	No
512 Small Business Management	Yes	No	Yes	Yes
515 Principles of Management	Yes	Yes	Yes	Yes
516 Principles of Management	Yes	Yes	Yes	Yes
517 Personnel Management	Yes	Yes	Yes	Yes
520 Advertising & Sales Promotion	Yes	Yes	Yes	Yes
533 Principles of Marketing	Yes	Yes	Yes	Yes
556 Retail Merchandising	Yes	Yes	Yes	Yes
570 Intro. to International Trade	No	No	No	No
571 International Economics	No	No	No	No
572 Int'l. Trans. and Documentation	No	No	No	No
807 Statistical Methods in Business	Yes	Yes	Yes	Yes
1301 Materials Management and Purchasing	Yes	Yes	Yes	Yes

30 credits must be completed at NCTC, 50% of which must be completed in technical courses in the field in which the degree is granted.

Effective 1985-86 Academic Year

Attachment 11). With distance education evolving rapidly in the late 1980s, a proposal was developed that would create a technology center in each of six regions of the U.S. which would link schools and colleges in those regions to other parts of the world through satellite (Groff, 1989).

Ohio Technology Transfer Organization

Ohio experienced a large loss of heavy manufacturing establishments and jobs. Schools and colleges were asked to assist in technology transfer in an effort to modernize plants in an effort to make them competitive and retain them and reduce the jobs lost (Groff, 1983)(see Attachment 12).

Retraining the Unemployed

The closing of the Mansfield Tire and Rubber Co. added between 450 to 500 additional tire builders to an unemployed list that was already very long. NCTC was a part of a major community-wide retraining project (Groff, 1981).

American Society for Training and Development

Many professionals who design and conduct training programs in corporations belong to the American Society for Training and Development (ASTD). ASTD has many chapters throughout the U.S. comprised of trainers who share ideas about workforce and workplace needs that range from task analysis to instructional delivery. NCTC became an active participant in Mohician Valley ASTD Chapter activities. ASTD is a major source of information about forces which are impacting on workforces and workplaces (see Appendix B).

ASTD is the national organization that is doing more than any other group to anticipate the impact of economic and technological forces upon workplaces and workforces. ASTD has published research reports about competencies and skills needed by the workforce of the future.

Comprehensive Learning Center

An increase in a more diverse student body and a desire by NCTC to be more responsive to unique needs of students led to the development of a proposal to fund a Comprehensive Learning Center (CLC). The CLC application included comprehensive assessment, personnel development, and computer labs with hardware and software.

Numerous high quality centers exist throughout the U.S. The Maricopa County Community College District has set goals for open entry/open exit programs. Centers are essential to maintain high levels of student learning outcomes when additional flexibility is built into programs.

IMPORTANT ELEMENTS IN UNDERSTANDING OTHER COUNTRIES

LANGUAGE

- Spoken language
- Written language
- Official language
- Linguistic pluralism
- Language hierarchy
- International languages
- Mass media

POLITICS

- Nationalism
- Sovereignty
- Imperialism
- Power
- National interests
- Ideologies
- Political risk

VALUES AND ATTITUDES

- Toward time
  - achievement
  - work
  - wealth
  - change
  - scientific method
  - risk taking

LAW

- Common law
- Code law
- Foreign law
- Home country law
- Anti-trust policy
- International law
- Regulation

EDUCATION

- Formal education
- Vocational training
- Primary education
- Secondary education
- Higher education
- Litarery level
- Human resources Development

RELIGION

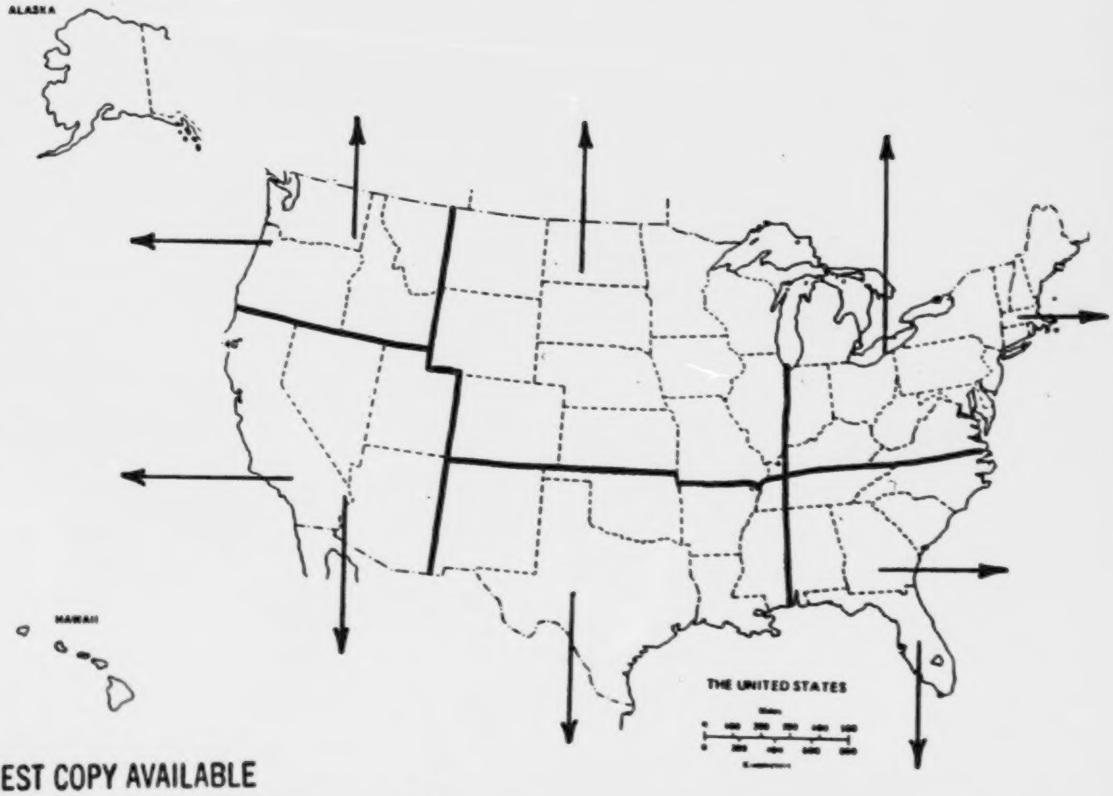
- Sacred Objects
- Philosophical system
- Beliefs and norms
- Prayer
- Taboos
- Holidays
- Rituals

TECHNOLOGY AND MATERIAL CULTURE

- Transportation
- Energy systems
- Tools and objects
- Communications
- Urbanization
- Science
- Invention

SOCIAL ORGANIZATION

- Kinship
- Social institutions
- Authority structures
- Interest groups
- Social mobility
- Sexual stratification
- Status systems



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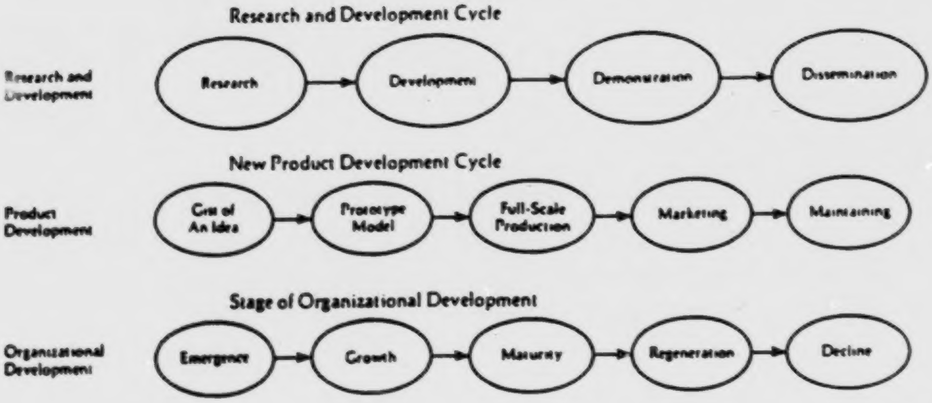
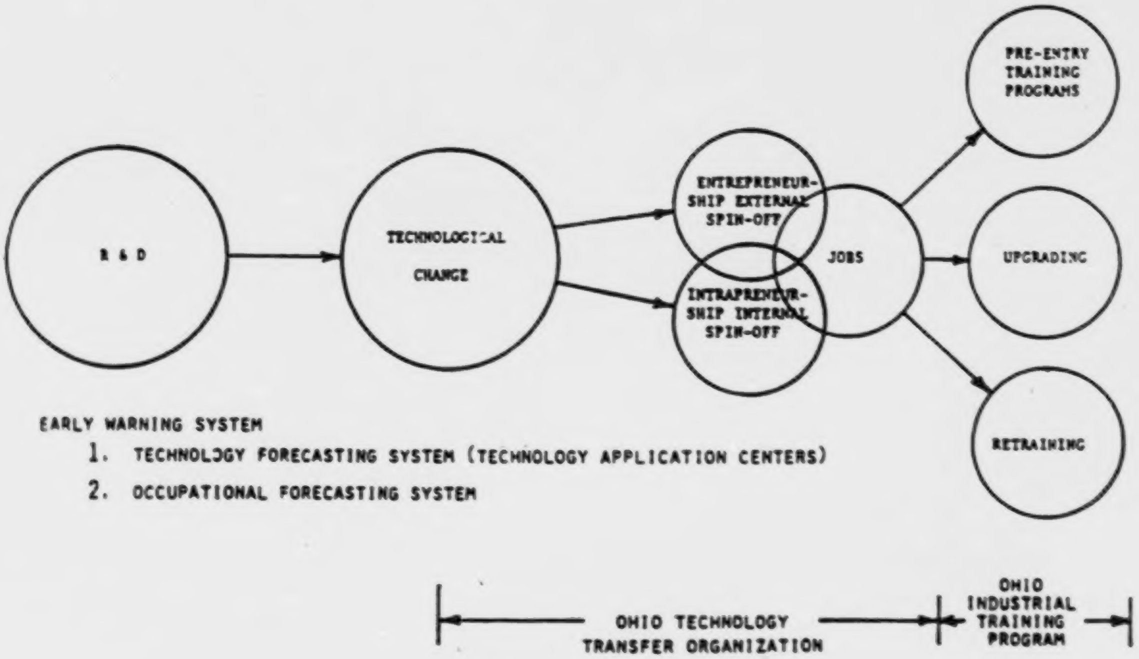
Developmental Sequences



Warren H. Groff. "Strategic Planning of Technology Transfer." Journal of Studies in Technical Careers. Summer 1983, Vol. 5, No. 3. Pp. 260-274.

THE RELATIONSHIP BETWEEN R & D AND ECONOMIC DEVELOPMENT


R & D
TECHNOLOGICAL CHANGE
ENTREPRENEURSHIP EXTERNAL SPIN-OFF
INTRAPRENEURSHIP INTERNAL SPIN-OFF
JOBS
PRE-ENTRY TRAINING PROGRAMS
UPGRADING
RETRAINING
OHIO TECHNOLOGY TRANSFER ORGANIZATION
OHIO INDUSTRIAL TRAINING PROGRAM

EARLY WARNING SYSTEM

1. TECHNOLOGY FORECASTING SYSTEM (TECHNOLOGY APPLICATION CENTERS)
2. OCCUPATIONAL FORECASTING SYSTEM

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Academic Challenge Grant for Associate Degree Nursing

In the early 1980s, it was apparent that an electronic health care communications network would soon be possible. Patients would be able to input vital signs from their home, community-based health care unit, or physician's office which could be transmitted to a hospital for processing by a laboratory or pharmacy. Upon discharge, the information flow would be reversed. The conceptual framework led to the funding of an Academic Challenge Grant of six years for ADN which impacted other health occupations (see Attachment 13).

Conceptual frameworks play a major role in communicating a vision for a project. Many examples of conceptual frameworks for HRD projects were provided. One conceptual framework is "Components of a Human Resources Development System" in Learning Communities of the Future in which communication and information technologies are the core of the learning enterprise (Groff, 1986b). Such a conceptual framework is useful in considering learning support functions such as a library (see Attachment 13b).

Shelby State Community College developed an enrollment management system around the concept of "Student Success" which included institutional outreach, inquiry response, admissions, enrollment services, registration and retention. EM is "customer" oriented (see Attachment 14).

HRD professionals took a modified Myers Briggs test used to group them for visions co-creation.

EA was a discussion of HRD projects and instructions for the vision assignment. Throughout the presentation of basic concepts, professionals were asked to concentrate on the identification of an HRD project and to think in terms of vision and action plan assignments in parallel or in tandem. Appendix B contains the instructional materials used in the presentation.

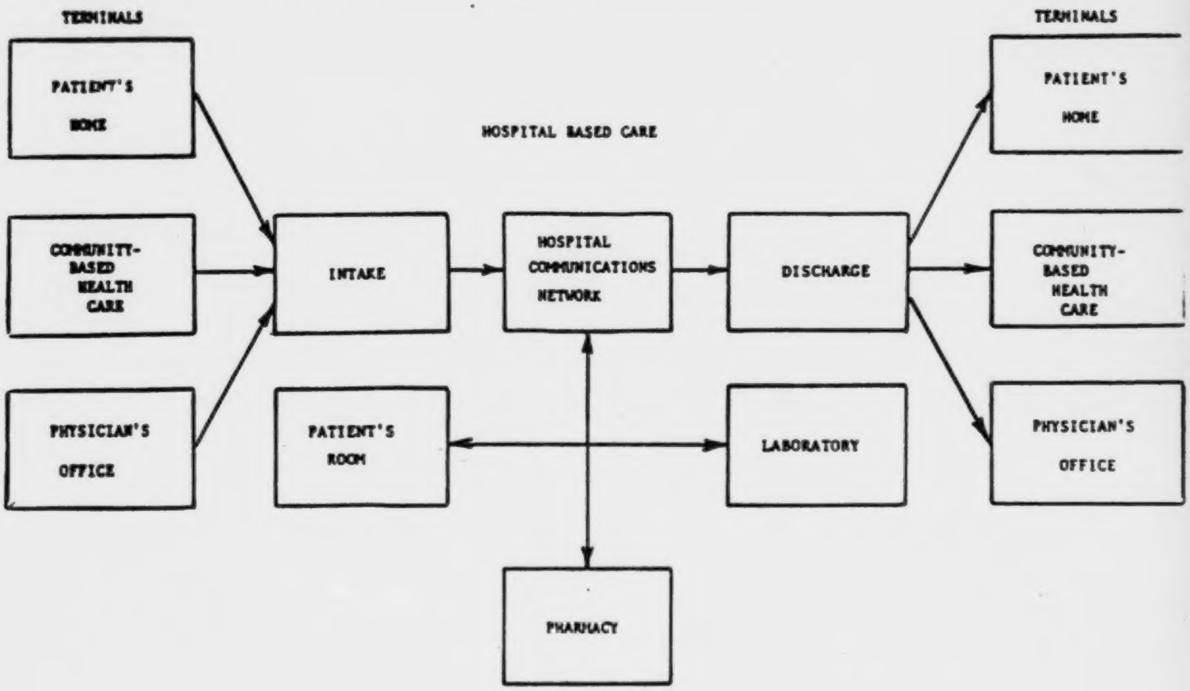
LA consisted of vision creation for the HRD projects. Students helped to co-create conceptual frameworks for visions and were group based on planning preference:

Strategic Humanists	Strategic Humanists	Pragmatic Humanists	Strategic Planners
EC	DE	SF	GP
DR	SS	JB	JB
GB	RK	SD	FW
AK	RD	LN & JM	JS-A

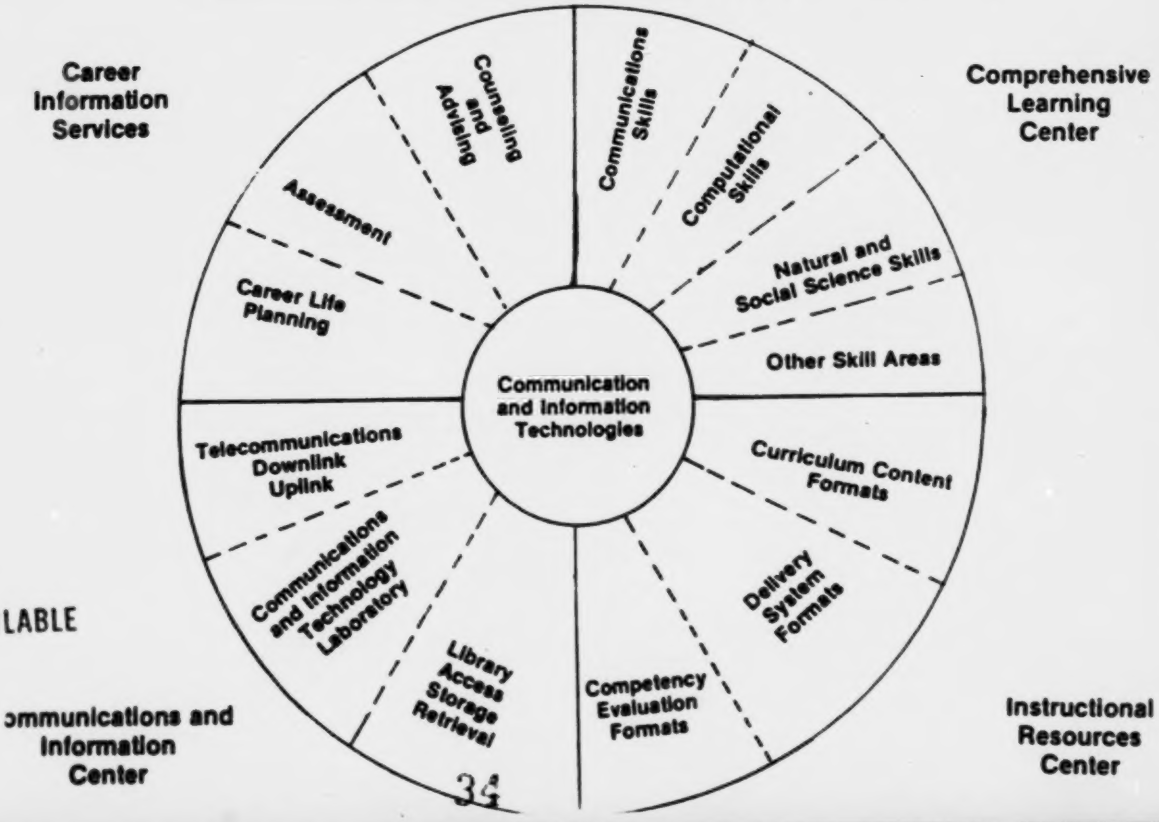
Instructions were provided for the visions assignment.

A memo was sent between session #1 and session #2 to provide additional information about Assignment #2 and to share results of diagnostic information (see Appendix A). Students were encouraged to bring articles and information.

THE HEALTH CARE ELECTRONIC COMMUNICATIONS NETWORK



COMPONENTS OF A HUMAN RESOURCES DEVELOPMENT SYSTEM


Career Information Services
Comprehensive Learning Center
Counseling and Advising
Communications Skills
Computational Skills
Assessment
Natural and Social Science Skills
Career Life Planning
Other Skill Areas
Communication and Information Technologies
Telecommunications Downlink Uplink
Curriculum Content Formats
Communications and Information Technology Laboratory
Delivery System Formats
Library Access Storage Retrieval
Competency Evaluation Formats
ommunications and Information Center
Instructional Resources Center

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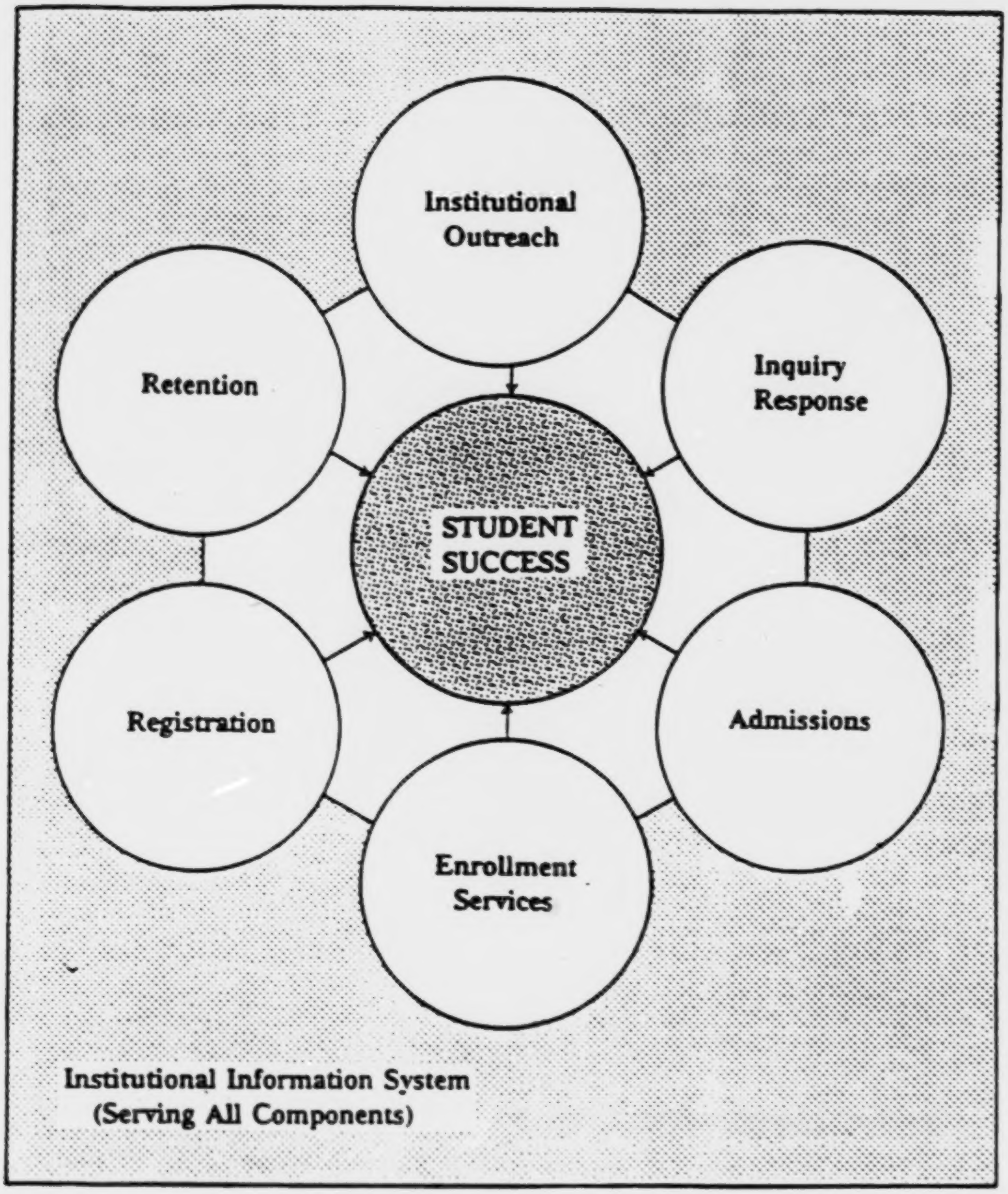
ENROLLMENT MANAGEMENT SYSTEM



Second Session

Assignment #2 was a vision for an HRD project. After some preliminary remarks, some students made a five minute oral presentation. Conceptual frameworks were distributed for the vision. Students recorded significant concepts and implications for their work context.

Significant concepts and implications were discussed. Additional conceptual frameworks could include delivery of "Learning and Health Care in the Home" (Olson, 1992)(see Attachment 15). The library/media center will be critical in the reengineering of the learning enterprise because it will be the input, process, and output hub. Databases and information networks will be discussed in later sections in relationship to specific projects.

Multi-Year Action Plan

The EA session was dedicated to converting conceptual frameworks into multi-year action plans. Multi-year action plans include (a) rationale - why, (b) goals and objectives - what in terms of outcomes, (c) methodology - how, (d) evaluation, and (e) budget (see Attachment 16).

Rationale

The analysis assignment provides information about the **REAL** and insights about HRD projects that could be selected. During the first meeting, each student can zoom in on an HRD project for which s/he will create an **IDEAL**. The **REAL** compared against the **IDEAL** provides each student with what s/he will **NEED** in the action plan:

Analysis	**REAL**
Vision	**IDEAL**
Action Plan	**NEED**

The rationale could include a reference to viability, quality of life, global information society, humanitarian things to do, equality of opportunity, contemporary model, research and theory, return on investment, comparative advantage, or other types of reasons.

Goals and Objectives

Goals are usually long term and objectives are usually short term. Goals and objectives have a focus on what is to be accomplished by when, by whom, and under what conditions. Goals should be achievable, challenging, motivating, and realistic. There should be only a few goals, from three to five. There should be only a few objectives for each goal.

21ST CENTURY LEARNING AND HEALTH CARE IN THE HOME:

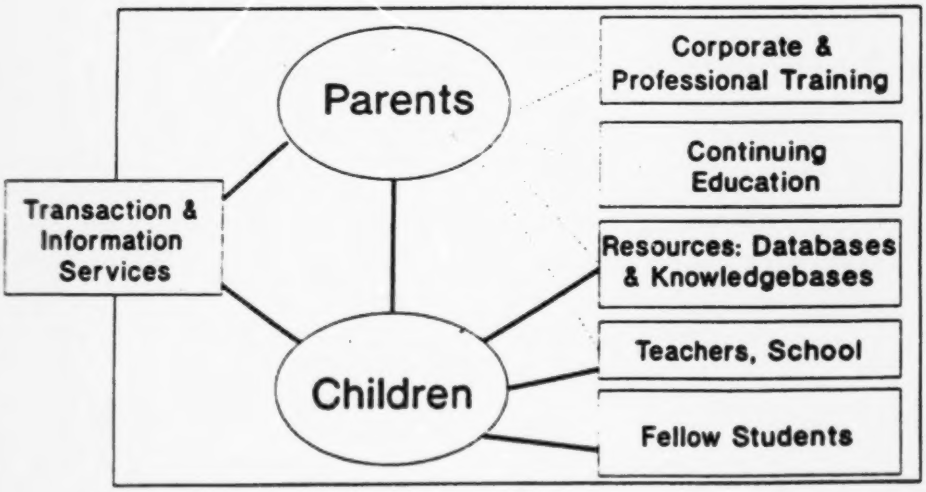
CREATING A NATIONAL TELECOMMUNICATIONS NETWORK

108 North Alfred Street
Alexandria, VA 22314
(703) 684-5880

1631 Suter's Lane NW
Washington, DC 2000
(202) 333-603

POTENTIAL ELECTRONIC FAMILY LEARNING ENVIRONMENT

FIGURE 1


Parents
Children
Transaction & Information Services
Corporate & Professional Training
Continuing Education
Resources: Databases & Knowledgebases
Teachers, School
Fellow Students

PROPOSALS

RATIONALE - WHY

GOALS & OBJECTIVES

- WHAT (OUTCOMES)

METHODOLOGY - HOW

EVALUATION

BUDGET

RATIONALE - WHY

ESSENTIAL TO VIABILITY

QUALITY OF LIFE

GLOBAL INFO SOCIETY

HUMANITARIAN THING TO DO

EQUALITY OF OPPORTUNITY

CONTEMPORARY MODEL/SYSTEM

RESEARCH AND THEORY

EXEMPLARY MODEL

RETURN ON INVESTMENT (ROI)

COMPARATIVE ADVANTAGE

NATIONAL - STATE - LOCAL

Methodology

Methodology, how to do things, would be linked to objectives and could involve personnel, technology, multiple establishments, building and plant, and finances. Each of these categories has a set of subcategories. For example, the personnel category could include existing, new, number, type, competencies and skills, relationships, and human resources development. The technology category could include know-how, hard and soft technology, networks, and information and technology centers.

Evaluation and Budget

A method of evaluation was to be included in the plan. An estimate of costs was to be included in the plan.

American 2000 and Other Education Restructuring

America 2000 and other education restructuring projects provide insight into HRD multi-year action plans. Numerous states are implementing outcomes based education and technology education through strategic planning. Some of the New American Schools Development Corporation projects are very creative in their approach to restructuring.

America 2000 provides a conceptual framework for a multi-year action plan with the six goal categories. Readiness (Goal 1) and math and science (Goal 4) are essential to U.S. viability. The U.S. must find better ways of developing human resources in math, science, and technology to be competitive in the 21st Century. America 2000 Goal 4 has three objectives:
1. Math and science will be strengthened throughout the system, especially in the early grades.
2. The number of teachers with a substantive background in mathematics and science will increase by 50 percent.
3. The number of U.S. undergraduate and graduate students, especially women and minorities, who complete degrees in math, science, and engineering will increase significantly.
Project activities could be to attract, articulate, analyze, matriculate, transition, etc. (see Attachments 17 and 18).

The multi-year plan can be based on the adoption of standards set by the National Council of Teachers of Math, Project 2061 with benchmarks, and technology (Science for All Americans, 1991, and Benchmarks for Science, 1993). What goals and objectives should be set to raise levels of awareness of advances in science and technology and the impact on workplaces and workforces? What goals and objectives should be set to raise the level of awareness and understanding about globalization? What goals and objectives should be set for creation of open entry/ open

Goal 4. Math and Science

Objective 3a.

To specify and implement strategies which will enhance the likelihood of increasing the number of undergraduate students, especially women and minorities, in mathematics, science, and engineering programs.

Objective 3b.

To increase significantly the number of United States undergraduate and graduate students, especially minorities and women, who complete degrees in mathematics, science, and engineering (MSE) programs (1).

3b(1). To attract more students into undergraduate education who indicate interest in majoring in MSE programs.

3b(2). To articulate MSE curricula between secondary school and lower- and upper-division postsecondary programs.

3b(3). To analyze MSE curricula to identify obstacles which impede students from progressing successfully toward degree completion.

3b(4). To matriculate more baccalaureate graduates into graduate MSE programs.

3b(5). To transition graduates from MSE undergraduate programs and students in graduate programs into classrooms in a variety of contexts.

3b(6). To retain more career entry teachers and provide for their continued professional development.

3b(7). To explore alternative certification processes to assist persons to enter teaching from various fields.

3b(8). To develop a private/public sector multiple establishment partnership to extrapolate trend analysis data to specify competencies and skills necessary for the workforce to be productive in the workplaces of the future.

3b(9). To design, possibly implement on a pilot basis, entirely new learning systems, beyond the contemporary traditional layered educational system, for the preparation of the MSE workforce based on the design team models from the New Generation of American Schools.

1 Minorities and women applied to all objectives.
National Science Foundation list of MSE programs attached.

MULTI-YEAR PLAN
GOAL 4 - MATH - SCIENCE
OBJECTIVE 3 - UNDERGRADUATE & GRADUATE EDUCATION

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
3b (1) Attract					
3b (2) Articulate					
3b (3) Analyze					
3b (4) Matriculate					
3b (5) Transition					
3b (6) Retain					

MULTI-YEAR PLAN

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5

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exit curriculum? What goals and objectives should be set for continuous quality improvement toward standards?

Some of the projects include conceptual frameworks of paradigms such as in Florida's Blueprint 2000. Florida matched state goals with categories of America 2000 and the Southern Regional Educational Board (see Attachment 19). In 1989 the Florida Department of Education asked the Center for Educational Technology at Florida State University to direct a multi-year initiative to design and implement technology- based models of schooling. School Year 2000 traced the evolution of paradigms from to oral traditional paradigm to the current paradigm. The initiative also produced a technology-based paradigm (see Attachment 20). SY2000 developed a conceptual framework to guide future development of the initiative that could lead to QUALITY SYSTEMS including TQM and ISO 9000 (see Attachment 21).

Professionals specified goals and objectives and then methodology for HRD projects. In each of the two sessions, students were grouped by planning preference. Students co-created part of the vision and action plan with other persons with similar predispositions. Students co-created action plan with persons with dissimilar predispositions. Strengths were highlighted for each of the four planning predispositions. Strategic humanists may be good at stating beliefs and values to create conceptual frameworks. Strategic managers may be good at long term solution through technology. Pragmatic humanists may be good at person centered services. Pragmatic managers may be good at routine activities. The significant concept to be learned is the unique qualities each person brings to a group.

A comparison of planning preferences was made between the Tampa, South Florida, and Phoenix, and Orange County Clusters. A comparison was also presented for changes in preference over the three year span between Leadership I and Leadership II in a national multi-tech Child and Youth Studies doctoral program (see Attachments 22a, 22b and 22c).

The second session included comments about the oral presentation and the final examination. Practicum ideas were also discussed. A "Survey of Workforce" questionnaire developed by Michael Cupples was distributed along with a "Technology in Schools Survey" by the Technology Steering Committee of the New Jersey School Boards Association (see Appendix B). Students were asked to develop practicum ideas and bring them to the next class.

The second session concluded with some remarks about Taiwan by Charles Chen and the author of this report. The author was the keynote speaker at the 1994 International Conference on Technology Education in Taiwan and is a major applied research advisor to Mr. Yng-chien Sheu in Taiwan.

Comparison of National, Regional, and Proposed State Goals For Public School Education

Proposed State Goals	**National Education Goals**	**Southern Regional Education Board Goals**
The Education Coalition, meeting on January 18, 1991, recommended the following education goals for Florida:	*On March 29, 1990, the Governor and Cabinet, sitting as the State Board of Education, accepted these national education goals developed by the National Governor's Association:*	*In May 1989, the Florida Legislature adopted by resolution the following goals for public education, which were developed by the Southern Regional Education Board:*
1) Readiness to start school -- All communities and schools will collaborate to prepare children and families for children's success in school.	**1) Readiness to start school** -- By the year 2000, all children in America will start school ready to learn.	**1) Readiness to start school** -- All children will be ready for the first grade.
2) Graduation rate and readiness for postsecondary education or employment -- All students will graduate and be prepared to enter the workforce and postsecondary education.	**2) School completion** -- By the year 2000, the high-school graduation rate will increase to at least 90 percent.	**2) School completion** -- The school dropout rate will be reduced by one-half. Four of every five students entering college will be ready to begin college-level work.
3) Student performance -- Florida students will successfully compete at the highest levels internationally and be prepared to make sound economic, political and social choices.	**3) Student performance** -- By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency over challenging subject matter, including English, mathematics, science, history and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy. By the year 2000, U.S. students will be the first in the world in mathematics and science achievement.	**3) Student performance** -- Student achievement for elementary and secondary students will be at national levels or higher. Significant gains will be achieved in the mathematics, sciences and communications competencies of vocational-education students. Schools will have improved performance and productivity demonstrated by results.

ACCOUNTABILITY FOR 21ST CENTURY SCHOOLS

Florida Department of Education • Betty Castor, Commissioner • An affirmative action/equal opportunity employer

Proposed State Goals	**National Education Goals**	**Southern Regional Education Board Goals**
4) School safety and environment -- Communities will provide an environment that is drug-free and protects all students' health, safety, and civil rights.	**4) Safe, disciplined, and drug-free schools** -- By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.	
5) Teachers and Staff -- School districts and the state will ensure professional teachers and staff.		**5) Teachers and staff** -- Salaries for teachers and faculty will be competitive in the marketplace, will reach important benchmarks, and will be linked to performance measures and standards.
6) Adult literacy -- Every adult Floridian will be literate and have the knowledge and skills needed to compete in a global economy and exercise the rights and responsibilities of citizenship.	**6) Adult literacy and lifelong learning** -- By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.	
		7) Postsecondary -- All institutions that prepare teachers will have effective teacher education programs that place primary emphasis on the performance of graduates. The percentage of adults who have attended college or earned 2-year, 4-year or graduate degrees will be at the national averages or higher. The quality and effectiveness of all colleges and universities will be regularly assessed, with particular emphasis on the performance of undergraduate students.

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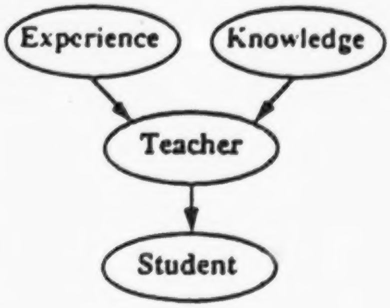
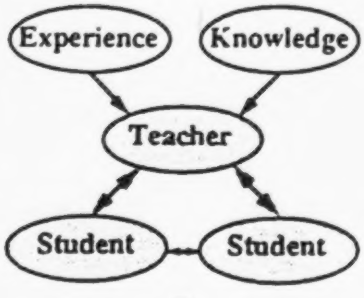
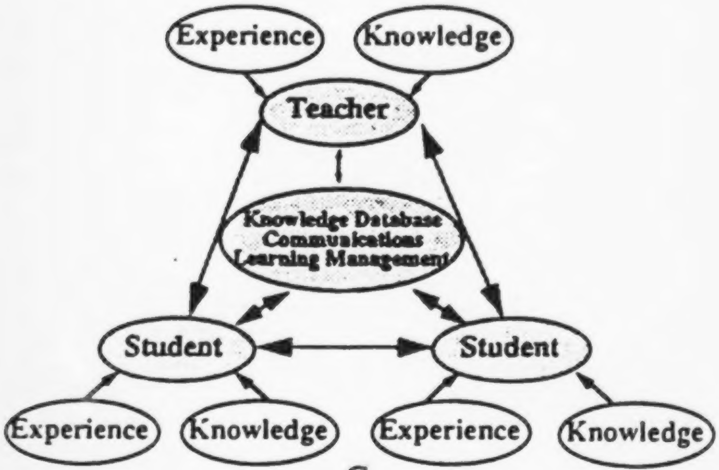


A
Oral Tradition
Paradigm

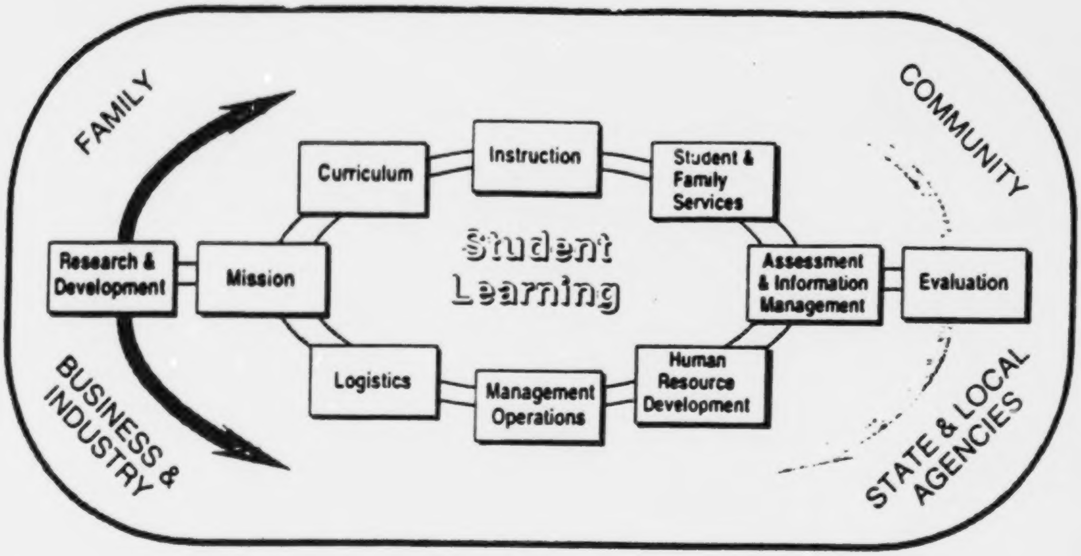


B
Current
Paradigm



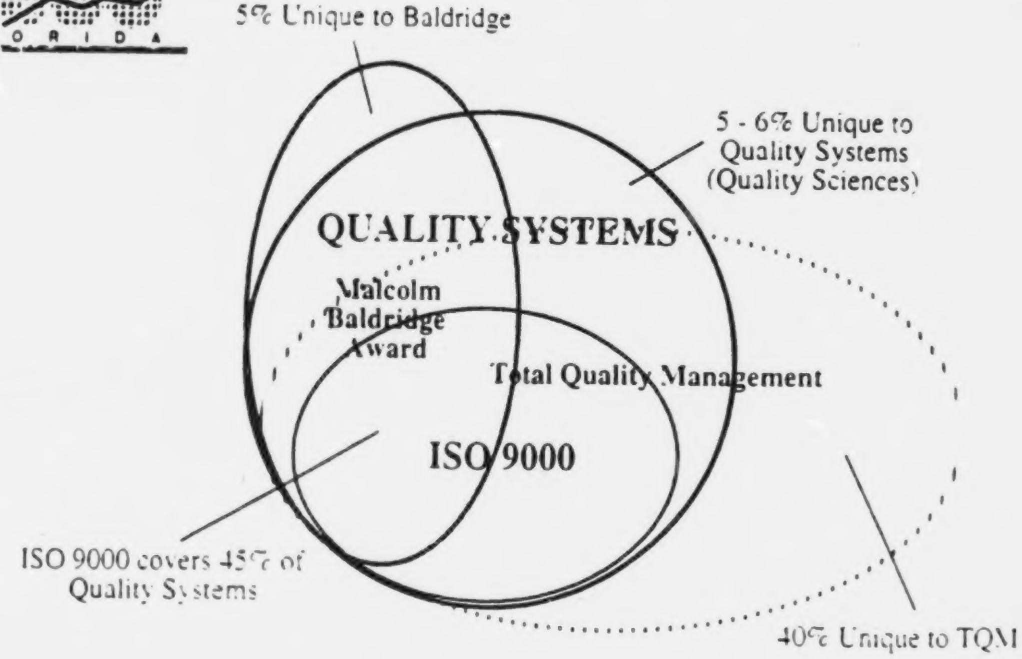
C
Technology-Based
Paradigm

SchoolYear 2000
FLORIDA



Schoolyear 2000 Operations Model

SchoolYear 2000
FLORIDA



Relationship of QUALITY SYSTEMS to ISO 9000,
Malcolm Baldridge Award, and Total Quality Management
Presented by Frank Caplan

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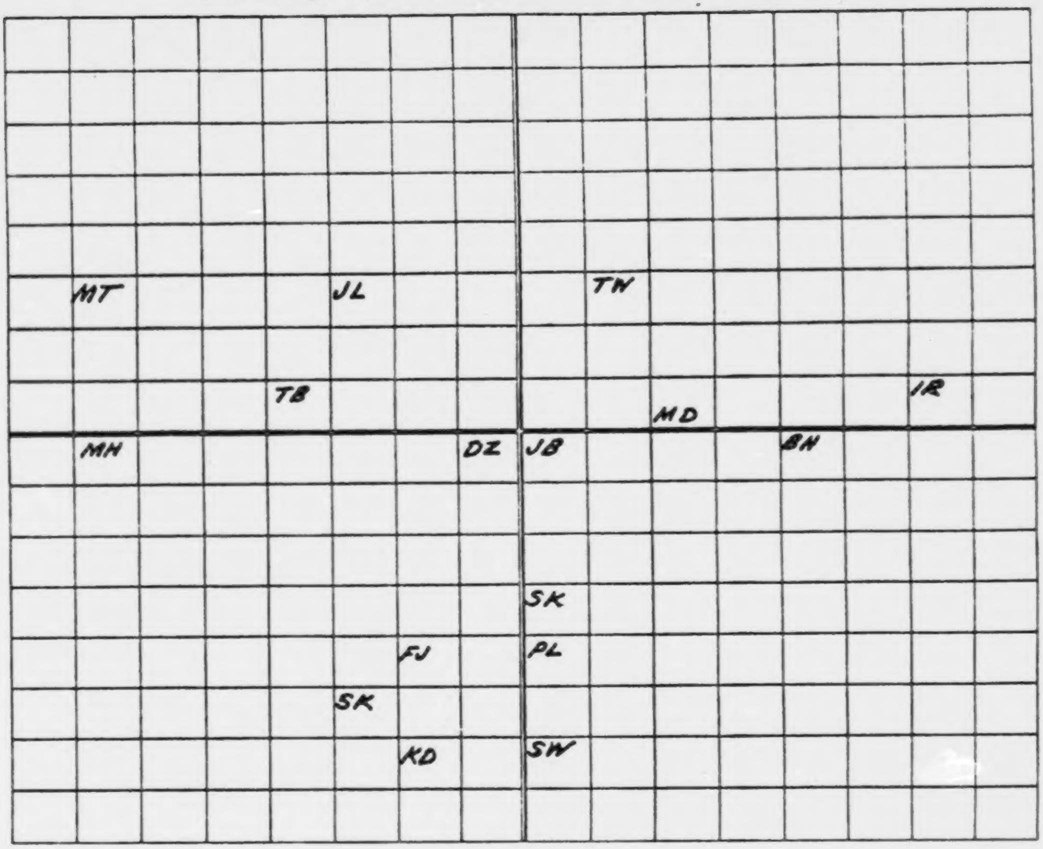
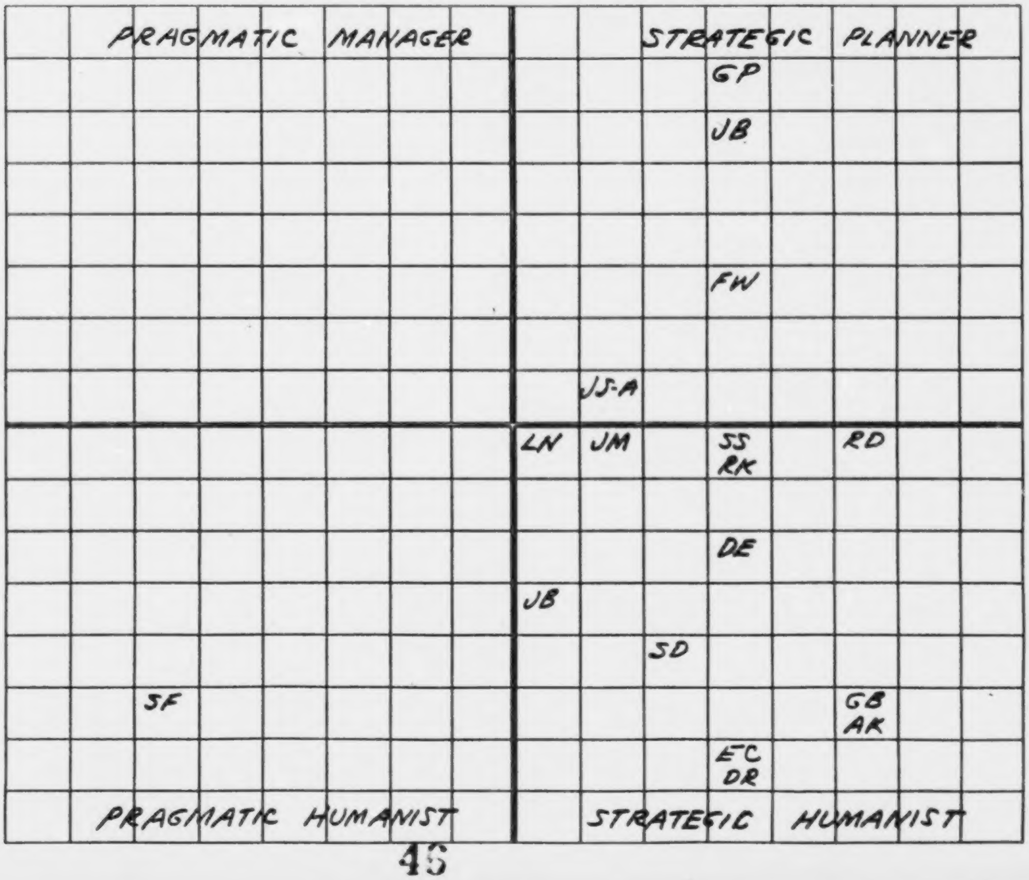
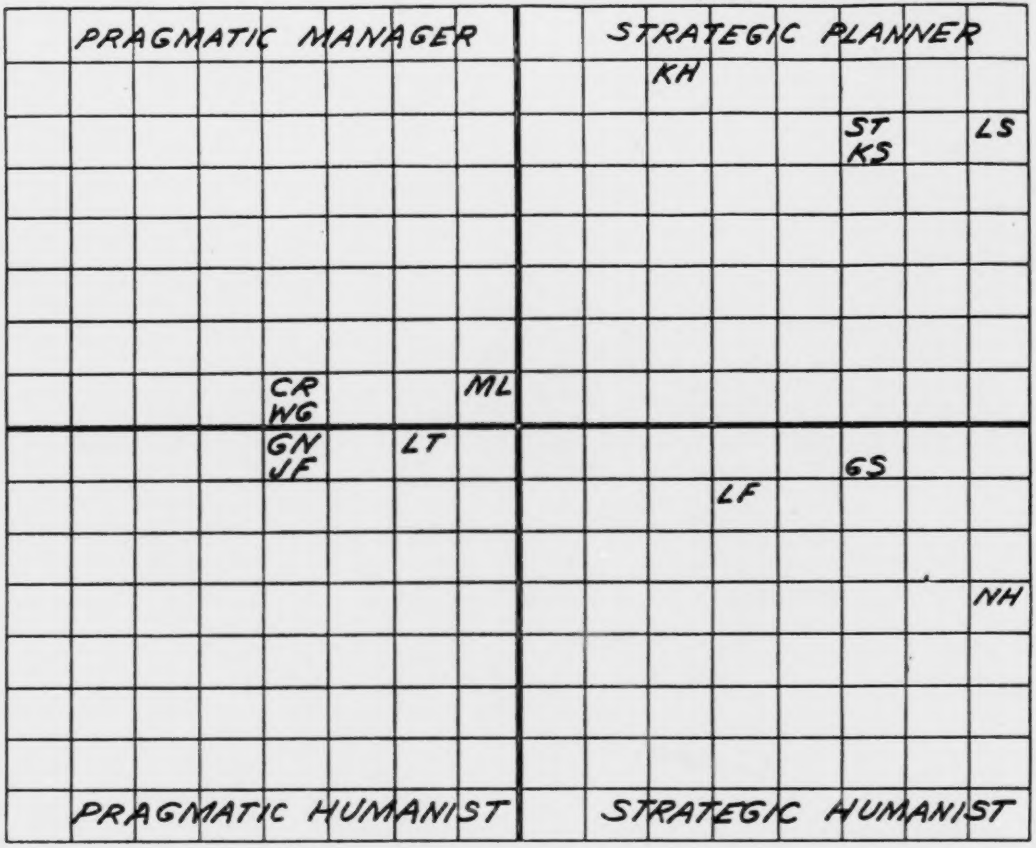
HRD. TAMPA. WINTER 1994



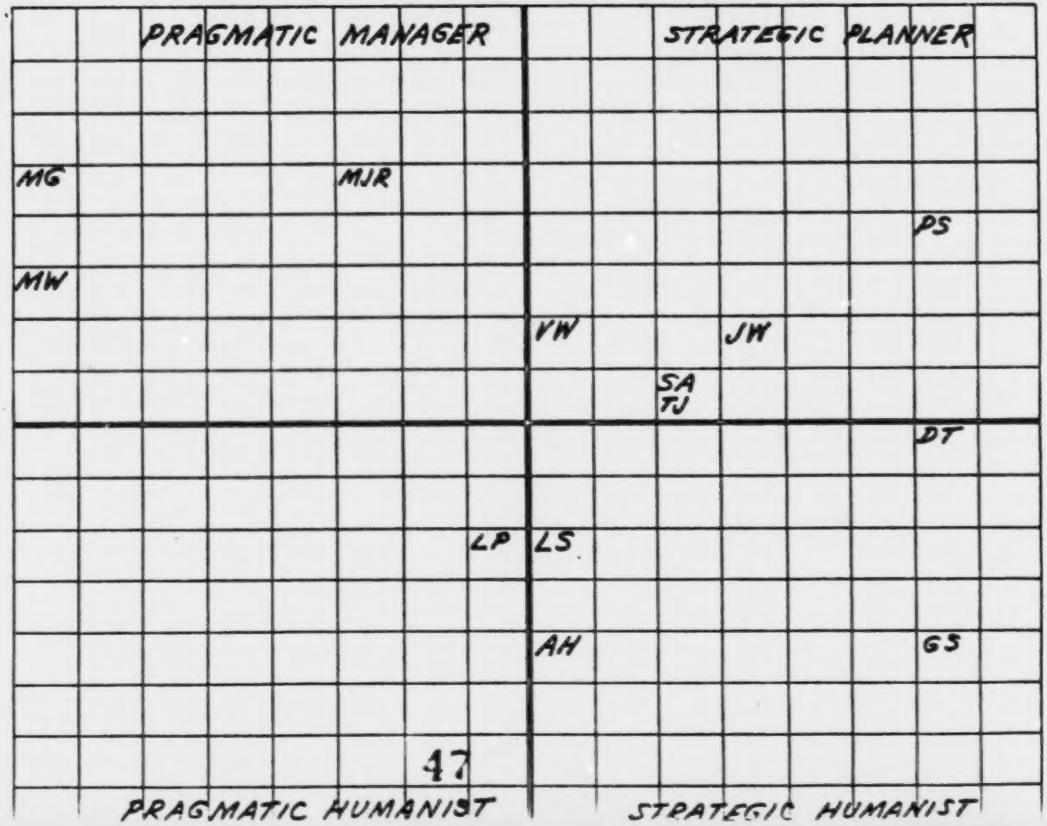
ORANGE CO, HRD. SP, 1994



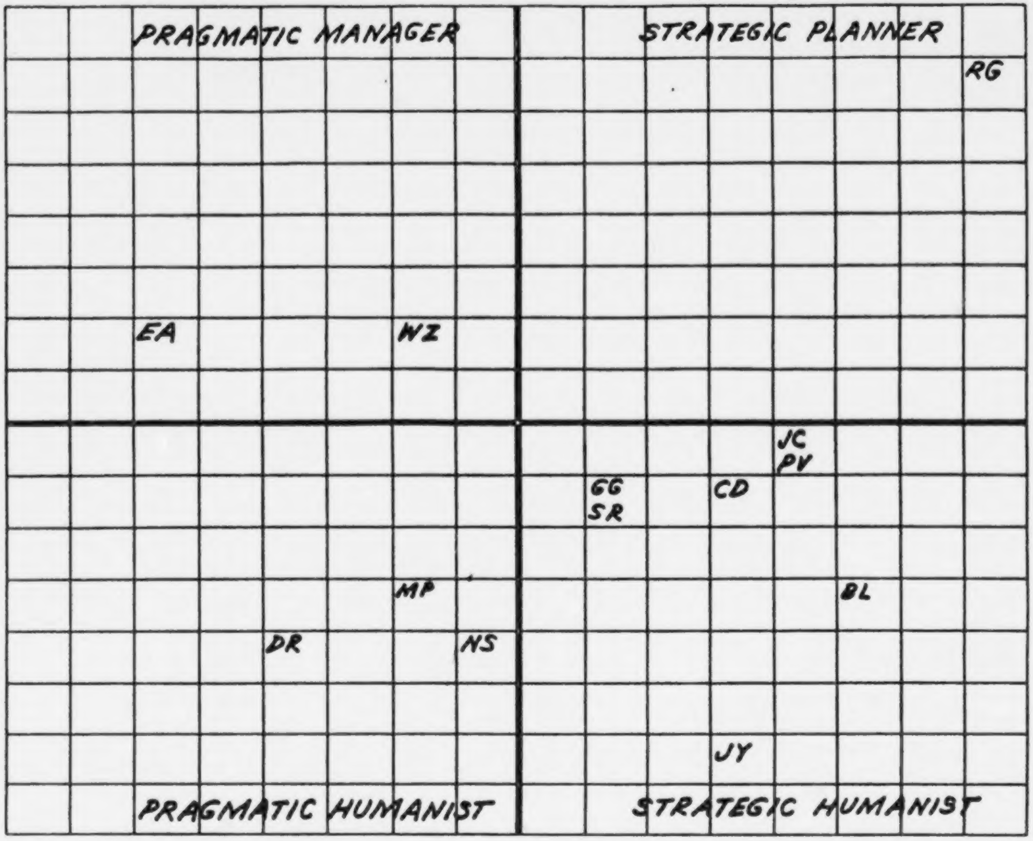
HRD, PHOENIX, FALL 1993



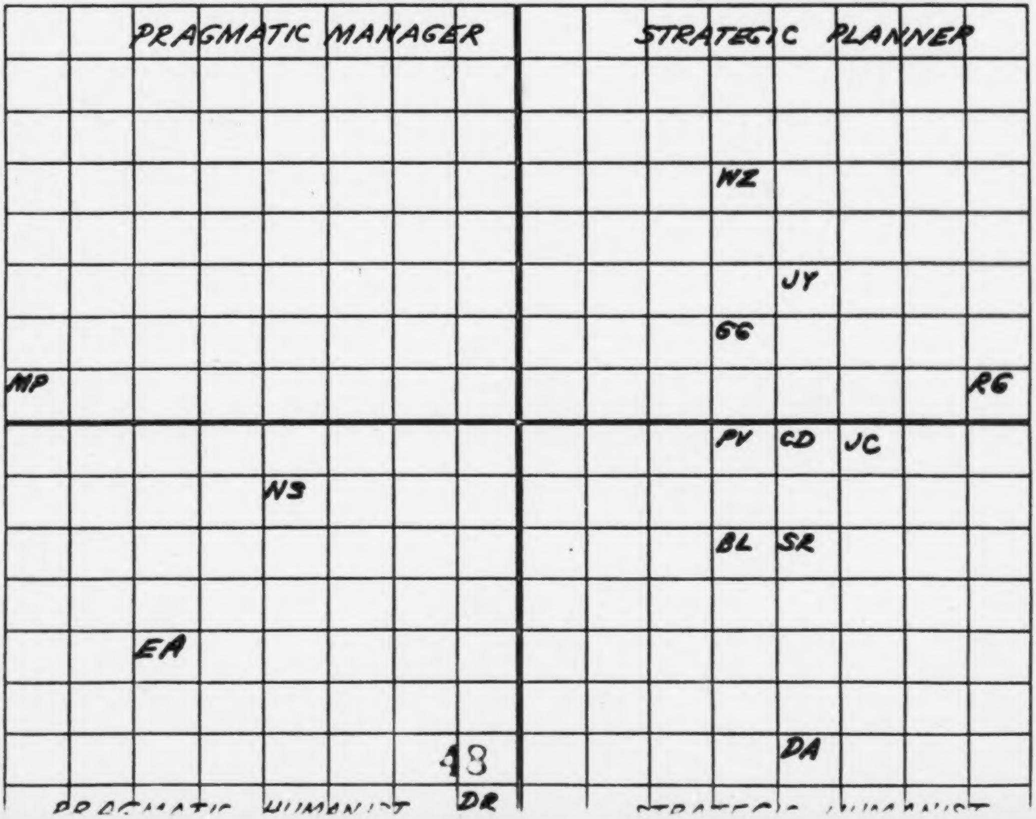
HRD, FT LAUDERDALE, FALL 1993



NATIONAL (MULTI-TECH) CLUSTER I, FEB 1991



NATIONAL (MULTI-TECH) CLUSTER I OCT 1993



Third Session

Assignment #3 was a multi-year action plan for the HRD project. Students were encouraged to submit their papers one week in advance of the class meeting and then prepare for the oral presentation of the HRD vision and action plan and for the HRD final examination. Each student made a five minute oral presentation on the project. Students recorded significant concepts and implications.

The sequence of oral presentations is based on logical connections and relationships of the projects and on a number of other variables such as displays of substantive content and oral presentation competencies. Sometimes presentations begin with exemplary work by professionals in the first few seminars of PHE (see Attachment 23).

Experience has led to the conclusion that it is important for each student to select an HRD project that is a high priority for the individual based on (a) her/his functions, responsibilities, and roles and (b) the analysis of context. HRD could be viewed as having at least three areas of emphasis (a) career development, (b) training and development, and (c) organizational development.

Career development concentrates primarily on a logical progression of careers. An individual could analyze the mission of student services, create a vision for the unit, and then develop an action plan to assist individuals in career professional development (see Attachment 24).

Second, a professional could focus on training and development activities to help a unit through a sequence of phases of growth. An individual could analyze the mission of a comprehensive learning center (CLC), create a vision to modernize a CLC with contemporary technology to ultimately be able to deliver courses in an open entry/open exit format into the community, and then develop an action plan with increments of growth. The phases of growth could progress from modernization within the CLC in the first year, local area networks on campus in the second year, and wide area networks with distant sites in the third year. The plan would be based on continuous quality improvement leading to enhanced student learning outcomes to benchmarked standards.

An example of emphasis on organizational development could grow out of an analysis and genuine commitment to collaboration with community establishments. The vision would focus on empowering people to improve quality of life and transforming the vision into an action plan to pursue restructuring of organizational development activities, a shift from blatent competition to interestablishment collaboration based on shared beliefs and values (Facts and Findings, 1984, see Appendix B 1).

HRD Vision and Action Plan Projects

Judith Bornholdt - A Vision for the Future of Academic Staff Development at Southwestern College
Sarah Daum - A Vision for Lifelong Learning at the College of Osteopathic Medicine of the Pacific
Ellen Clymer - A Center for Faculty Development in the Health Professions at the College of Osteopathic Medicine of the Pacific
Ron DeBellis - A Strategic Plan for the Community College of Southern Nevada
Diane Edwards - Saddleback College and Employee Health Enhancement Implementation Action Plan
Johe Morris - Associate Degree Nursing Curriculum Revision and Community Health Nursing - A Multi-Year Action Plan
Joan Steiner-Adler - A HRD Multi-Year Plan for Eisenhower Medical Center Incorporating the Deming Method
Arnold Kosmatka - Development of a Video Training Model to Increase Reliability of Neonatal Instructor Grading at Crafton Hills College
Ron Kraft - Vision Action Plan for the Grossmont-Cuyamaca Community College District
Steve Fischer - Establishment of a Centralized Training Center for Southern California Edison Company
Dan Ripley - An Action Plan for Increasing Cultural Sensitivity to the Black Student Athlete at Long Beach City College
John Bobb - Open Enrollment Curriculum Restructuring for a Regional Occupational Program
Greg Bishop - A Plan of Action for the Integration of CD-ROM Imaging Systems into the Art History Program at Saddleback College
Steven Smollen - A Workplan for Rewiring the English Faculty at Saddleback College
Gail Palmisano - A Multi-Year Plan for Effective Communications in a Total Quality Training Facility: Fleet Training Center, San Diego
Laurie Nalepa & Frank Widder - Action Plan for Teaching Marketing Principles Through Multimedia-Based Courseware at American College

HUMAN RESOURCES DEVELOPMENT

	CAREER DEVELOPMENT	TRAINING & DEVELOPMENT	ORGANIZATIONAL DEVELOPMENT
ANALYSIS			
VISION			
ACTION PLAN			

GOALS & ACTION PLAN - METHODOLOGY

GOALS & ACTION	MIND	SYSTEMS
GOAL 1		
Obj 1.1		
Obj 1.2		
Obj 1.3		
GOAL 2		
Obj 2.1		
Obj 2.2		
Obj 2.3		
GOAL 3		
Obj 3.1		
Obj 3.2		

The HRD action plan could consider research from the (a) cognitive sciences to better understand how the mind functions and (b) **systems** with emphasis on communication and information technology -- **databases** and **networks**.

LM is allocated to the written final examination which consists of synthesizing the HRD learning progression and commenting on how the experience can be used in work, for a practicum, or a Major Applied Research Project (MARP).

EA was a discussion of significant concepts and implications including visioning and scenario development.

Visioning and scenario development has evolved over the past several decades. During the 1960s and 1970s most of whatever energy was devoted to strategic planning assumed the continuation of contemporary traditional education as the dominant means of human resources development. Visions were based on a number of internal and external demographic, social, economic, technological and governmental planning variables and scenarios that were developed could be classified as (a) expansion, (b) steady state, or (c) contraction based on the mix of above-mentioned variables.

Advances in communication and information technologies made it possible to envision entirely new learning delivery systems in the 1980s. Technology intensive delivery systems were described in Any Home A Classroom (Halperin, 1984) and The Education Utility (Gooler, 1986). Thus, scenario classifications in the mid 1980s shifted to (a) contemporary traditional, (b) partial technological, and (c) technology intensive. Following a comprehensive contextual analysis and concensus on qualitative improvements, an institution in Texas specified three scenarios and an action plan using these categories (see Attachment 25a and b).

An analysis of alternative education completed in the late 1980s and presented at a workshop for the Department of Education of Arkansas in 1989 yielded the following categories of alternative education: within contemporary traditional education (CTE), partial technological/ Technology intensive deschooling (PTD), collaborative lifelong learning (CLL), and solution based education (SBL), an extension of outcomes based education (see Appendix B 1). One unique model of CTE is the **Middle College High School**, an alternative high school on a college campus. Following a comprehensive contextual analysis and concensus on qualitative improvements, an institution in Arizona specified scenarios for CTE, PTD, CLL, and SBL.

The Nebraska Community College Association initiated a strategic planning process in 1991 that yielded 8 areas of emphasis. The Mid-Plains Community College Area initiated a strategic planning process in 1992 that involved 100+

CREATING VISIONS

AND

ALTERNATIVE SCENARIOS

OPTION 1

Expansion

Steady State

Contraction

OPTION 2

Contemporary Traditional

Partial Technological

Technology Intensive

OPTION 3

Contemporary Traditional

Partial Technological - Technology Intensive

Cooperative Lifelong Learning

Solution Based Learning

BUILDING COMMUNITIES AND NEIGHBORHOODS

PRELIMINARY	EARLY FALL	LATE FALL	EARLY WINTER	LATE WINTER	SPRING
Plan to Think Strategically	Internal Audit	External Assessment	Alternative Scenarios	Preferred Scenario	Strategic Plan
Plan of Action					
Scope of Work		Demographic	Contemporary		1. Health
Levels of Analysis		Social	Traditional		
Org. Structure		Economic			
					2. Learning
Planning Room					
Materials		Establishments & Jobs (Workforce)			
Research					3. Culture
			Partial		
Data Books					
		Technology	Technological		
Communications					
					4. Work
Retreats					
Workshops - Technology		Global Change			
					5. Arts
Format of Products			Technology		
Focus on Creativity		Impact	Intensive		

STRATEGIC PLAN

FOR IMPROVED QUALITY OF LIFE

	YEAR 1 RAISE AWARENESS	YEAR 2 AROUSE INTEREST	YEAR 3 DEVELOP UNDERSTANDING	YEAR 4 INCREASE COMMITMENT	YEAR 5 TOTAL DEDICATION
HEALTH					
LEARNING					
CULTURAL					
WORK					
ARTS					

participants and yielded 8 scenarios with multi-year action plans: General Education Core; Remedial and Developmental Education; Vocational- Technical Education On-Site and Mobile; Remedial and Developmental Education via Distant Delivery into Community, Home, and Workplace; Next Generation Tech-Prep Programs; Rural Community Leadership and Social Infrastructure Development; Lifelong Consumer Controlled Learning for Adult Literacy; and Solution Based Outcomes Learning (Groff, 1993D)(see Attachment 26).

The Southwestern Allied Health Sciences School held a strategic planning retreat in 1992 that yielded 9 strategic directions which were refined into specific actions for 4 categories in a plan: mission attainment, functional relationships, qualitative improvements, and human resources development (see Attachment 27). Tasks matched with planning preferences were as follows:

Mission Attainment	Strategic Humanists
Functional Relationships	Pragmatic Managers
Qualitative Improvements	Strategic Planners
Human Resources Development	Pragmatic Humanists

The need for developing leaders who can create strategic visions of the future is well documented in the literature. One indication of the need is the restructuring of masters of business administration degrees which are now emphasizing the long view. Some information exists about restructuring designs which are transforming K-12 education such as the New American Schools Development Corporation project (see Appendix B 1). Less information exists about fundamental restructuring at postsecondary education establishments that are engaged in graduate programs to prepare education and training leaders for a variety of contexts.

All establishments need a mission statement and a clear vision of where the business is headed. The world is shifting from self contained independent economies to global interdependence with tremendous implications for workplaces, workforce competencies and skills, and human resources development systems. One driving force is hard technology such as asynchronous transfer mode (ATM), cellular, and voice activated devices. There are hundreds of businesses using ATM. With at least 36 vendors marketing products, the technology will fundamentally restructure workplaces. Electronic books and books online are rapidly becoming a reality. Imagine HRD online from seminar materials such as the "Assignments and Instructions" to class sessions through the "electronic classroom" presented in smaller blocks such as EM, LM, EA, and LA. Resources would be obtained from the "electronic library" and sources reachable through Internet. EDUCOM President Robert C. Heterick (1993) stated "Only half of the U.S. four-year institutions are linked today and far fewer than that for two-year colleges. More libraries need to be connected along with high schools and state agencies."

PM GENERAL EDUCATION CORE	SP NEXT GENERATION TECH-PREP PROGRAMS
PH REM & DEV ED VIA TECH ON SITE	SH RURAL COMMUNITY LDRSHIP & SOCIAL INFRASTRUCTURE DEV
PM VOC-TECH ED ON SITE & MOBILE	SP LIFELONG CONSUMER CONTROLLED LEARNING FOR ADULT LITERACY
PH REM & DEV ED DISTANT DELIVERY COMMUNITY, HOME, WORK	SH SOLUTION BASED LEARNING FOR HEALTH CAREERS

RED PRAGMATIC MANAGERS FR	**GREEN** STRATEGIC PLANNERS QI
YELLOW PRAGMATIC HUMANISTS HRD	**BLUE** STRATEGIC HUMANISTS MA

RETHINKING, RESTRUCTURING, & REVITALIZING

	YEAR 1 UNDERSTANDING	YEAR 2 COMMITMENT	YEAR 3 DEDICATION
MISSION ATTAINMENT			
FUNCTIONAL RELATIONSHIPS			
QUALITATIVE IMPROVEMENTS			
HUMAN RESOURCES DEVELOPMENT			

ATM on a desktop has many implications for the California State University Network (CSUNET)(see Attachment 28).

Visions of the future should also consider know-how technology such as strategic planning, ISO 9000, needs assessment, outcomes based education, performance funding, program review, site based management, tech prep, total quality, and human resources development strategies. Corporations are beginning to anticipate the impact that technology will have on workplaces and translate insights gained into strategies like "A Vision of IBM Human Resource Performance in the Year 2000" (Charp, 1994).

The early afternoon session also included a brief discussion of ideas for practicums, the comprehensive examination, and ideas for Major Applied Research Projects.

Practicums

Ellen Saxe-Clymer, a second year student taking her seventh seminar, talked about the practicum proposal she had submitted by the second session. Joan Steiner-Adler, a second year student taking her seventh seminar, talked about the practicum proposal she had submitted on the development of an action plan utilizing TQM processes. Gail Palmisano, taking her first PHE seminar, talked about the proposal she had submitted relating to total quality (see Appendix C). Ronald DeBellis, a first year student taking his third seminar, talked about the conversion of his HRD papers into a practicum proposal on strategic planning as an HRD strategy. Potential topics were discussed. Professionals in the Orange County Cluster set a record by preparing three HRD practicum proposals to review by the cluster coordinator and the instructor by the third meeting of the seminar.

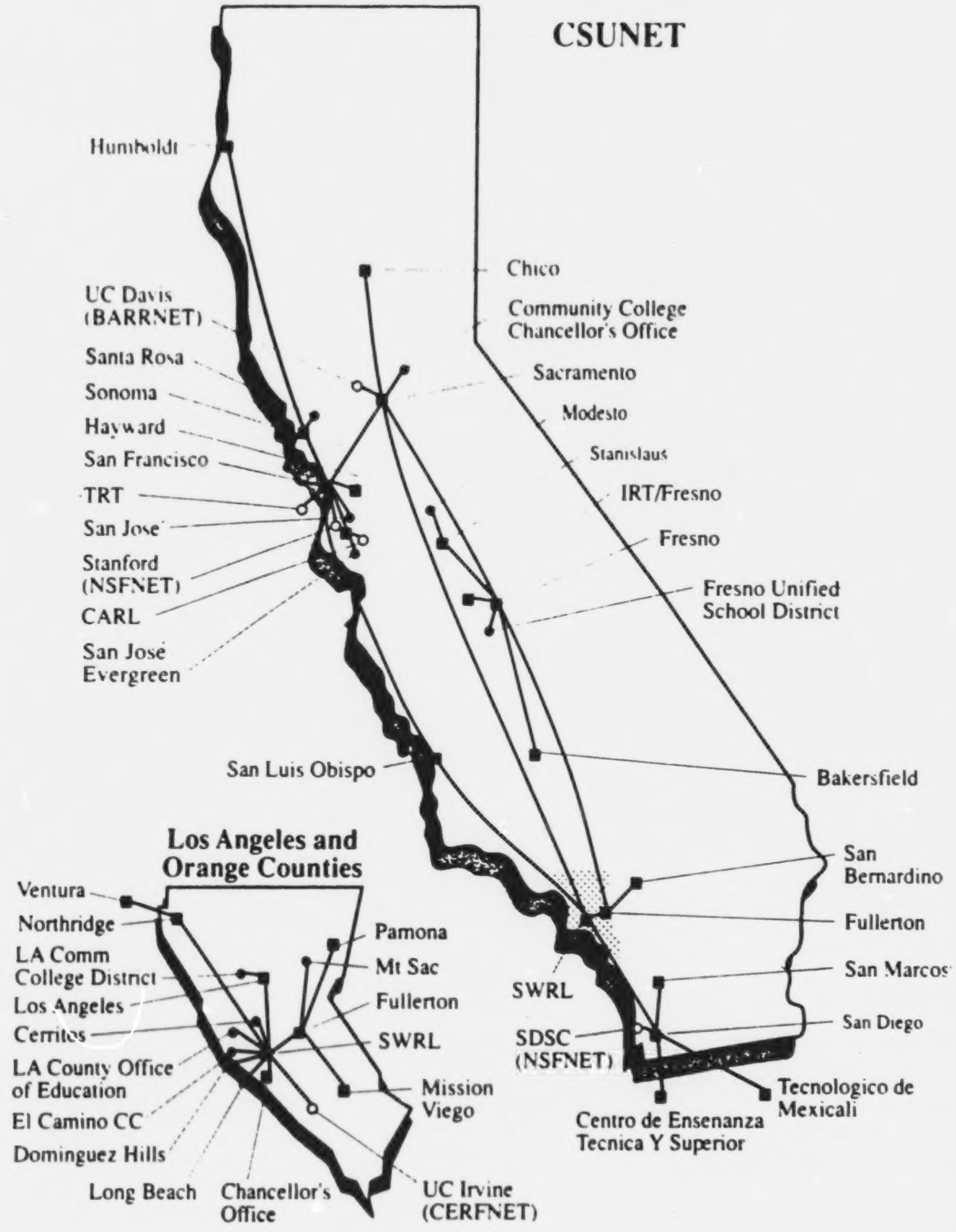
Comprehensive Examination

The final examination for HRD prepares individuals to take the PHE comprehensive examination. The question has two parts: synthesis and application. Each student is told to outline key concepts and then write. Each student is told to follow a similar process with all learning experiences including practicums in preparation for the PHE comprehensive exam and to review the exam booklet.

Major Applied Research Projects

Students were encouraged to think wholistically about their program. A series of transparencies were used to emphasize magnitude and scope.

LA was a report on the International Conference on Technology Education in Taiwan and the closing presentation on "Rethinking for Restructuring and Revitalizing."



■ University
● K-14 Education Site
○ Connection to External Network

Protocols supported include:
X.25, TCP/IP, SNA/SDLC, DECNET
Appletalk, X.3 Pad & Frame Relay

The first multi-tech cluster in the Child and Youth Studies doctoral program completed Leadership II from October, 1993, to February, 1994. This author wrote a paper entitled "'Third Wave'" Transformational Leaders on the CYS program to distribute to participants attending workshops at the Education Technology Conference by the New Jersey School Boards Association. The "Third Wave" paper and the workbook for the NJSBA were sent to Taiwan. The author was invited to speak at the conference (see Attachment 29).

Taiwan

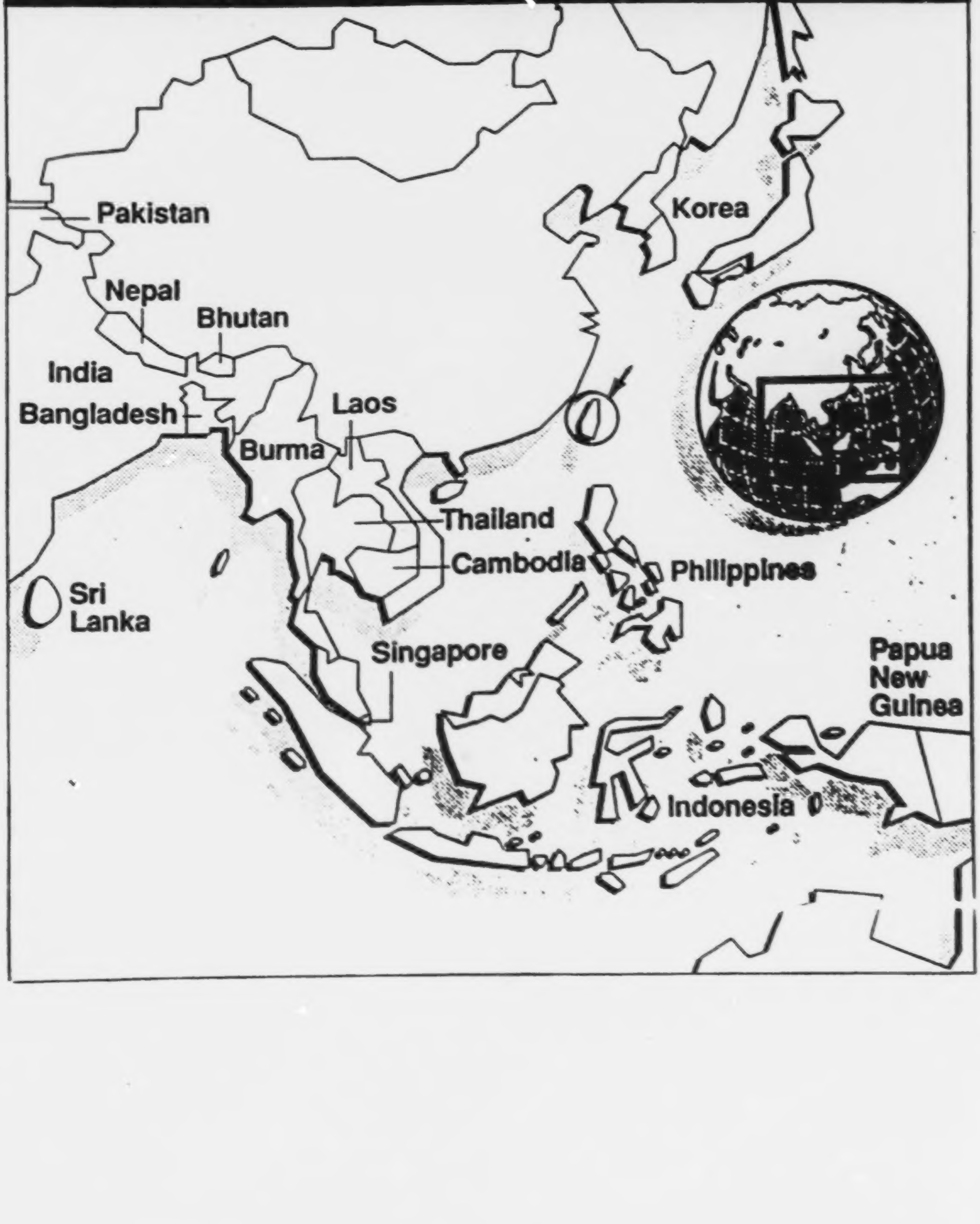
Mr. Yng-chien Shue is a professor at National Taiwan Normal University, Taipei, Republic of China, and a doctoral student in the vocational, technical, and occupational education specialization. His MARP is the "Development of a Strategic Plan to Establish a Printing Technology Department for National Taiwan Normal University, Republic of China."

Taiwan modernized its economy and educational system very rapidly and is in the process of both designing and implementing technology education. Standards have been set for implementation in 1994-95 in junior high schools in communications, construction, manufacturing, and transportation. Standards are being set for high schools.

The International Conference on Technology Education held twice in Taiwan, Taipei and Kaohsiung, was a wonderful experience in learning about the multiple approaches being taken in England, Germany, Japan, and in several states. "'Third Wave' Transformational Leaders" was translated into Chinese. All participants received a copy of the English and Chinese versions. I prepared a Resource Manual for site coordinators. Information and materials were requested from organizations like the National School Boards Association, American Association School Administrators and ERIC. I was in the middle of the program in Taipei and the anchor in Kaohsiung where each participant was asked to begin to create a multi-year action plan. Some of the participants indicated they are on Internet. "Third Wave" will be published in the conference proceedings and in Vocational Industrial Education in Taiwan.

Following the ICTE, I spoke to graduate students in the Industrial Arts Institute at National Taiwan Normal University. They represent the "Third Wave" leaders who will help to reengineer human resources development systems in Taiwan. The focus on graphic arts and printing was particularly significant because of (a) the rapid change in technology in that field and (b) the relationship of the field to literacy, productivity, and culture/democracy. The graduate students were asked to begin to create a multi-year action plan as I talked (see Appendix B 3).

Asia and Pacific



Rethinking for Restructuring and Revitalizing

The closing presentation on the 3 Rs had three goals:

1. To **RETHINK** The Learning Enterprise in an advanced technical era,
2. To **RESTRUCTURE** human resources development systems to produce knowledge workers in a global era, and
3. To **REALIZE** "The American Dream" through "Learning Communities of the 21st Century."

Three dominant emerging areas are (a) the European Union with a united Germany as the leader, (b) the North American Free Trade Agreement countries with the U.S. as the leader, and (c) the Pacific Rim with Japan as the leader. How will these three areas evolve in the technical era? What are the implications for global business workplaces and workforces, employee and employer relations, migrating hoards of people in search for work, and quality of life for all people but with particular focus on children and youth and the large numbers of the elderly? What are the implications for the "have" nations for the "have nots?"

Two essential ways to create visions of the future are (a) trend extrapolation and (b) dreams based on beliefs and values which are transformed into specifications of EQuality -- Equality and Quality. There are numerous 3R projects that have resulted in multiple variations of alternative education formats which will continue to evolve in the 1990s, some of which will include elements of continuous quality improvement and total quality benchmark techniques.

Educational institutions at all levels need a plan to plan for "**Building Communities and Neighborhoods.**" The planning process should yield strategic directions about health, the learning enterprise, culture, work, and the arts which are transformed into a multi-year action plan. The plan should reflect continuous improvement from raising awareness and arousing interest to developing understanding, increasing commitment and total dedication.

Rethinking in the U.S. should include beliefs about quality and access. Access through Internet is already a civil rights issues. Rethinking begins with the **mind** to form **new habits of heart and soul** to focus on the **ENDS**, often articulated clearly by strategic humanists, and also includes various levels of **MEANS** like hard technology, the role of futuristic technology oriented professionals, the application of services to people by pragmatic managers, and the application of knowhow technology by pragmatic managers. **Restructuring** is both within and between establishments. **Revitalizing** requires contemporary research on leadership and human resources development (see Appendix B 4).

Learning To Learn To Create A Future

During the expansion era of the 1950s and 1960s, leaders and policy makers were trained for quantitative expansion -- new programs, more personnel, new physical plants, and additional fiscal resources. The era can be characterized as a shift from autonomy to systems (Perkins, 1972) with rules and regulations in an effort to coordinate Blind Men on A Freeway (Moore, 1970). It was assumed that content and process of disciplines provided in the early years of life would last most of a lifetime and competencies could be maintained with a little continuing education. It was assumed that the bureaucratic, hierarchial, layered, traditional structure would be the dominant means for providing the needed human resources of the future.

The modernization era began for manufacturing in the 1970s for the industries that wanted to maintain market share of the emerging global economy. Manufacturing modernized and is restructuring, a process that is likely to continue as dominant industries position themselves for the the competitive 21st Century. The services sector is beginning to modernize and restructure. Governments at all levels are restructuring. Military base conversions and the Empowerment Zone and Enterprise Communities Initiative are but two examples at the national level which have serious impact on state and local levels. The courts declaring education funding unconstitutional in 11 states will also impact on restructuring of services. Some education and training began to modernize in the late 1970s and early 1980s in technical certificate and degree programs. Schools and colleges with active program advisory programs are fortunate to be able to benefit from counsel and expertise of professionals on the cutting edge using state-of-the-art technology. Because community colleges are to be responsive to diverse needs of customers in their service areas, their programs and delivery formats must also be very diverse.

The restructuring era presents new challenges and opportunities. Leaders and policy makers may not be prepared to proactively create bold and imaginative preferred scenarios with improved quality of life. Most current leaders and policy makers were the beneficiaries of traditional education, not its victims. An administrator or a board prepared for the expansion era of the industrial society may not have been able to lead an establishment into or through the modernization era with successive upgrades of contemporary technology. An administrator and board experienced in the modernization era may not have "Third Wave" transformational leadership competencies to help an institution or multiple institutions through establishment restructuring. The leadership competencies of "Rethinking for Restructuring and Revitalizing" must be learned in order to create "Learning Communities of the 21st Century."

Readiness

America 2000 (1989) and Healthy People (1990) are a call for renewal of mind, heart, and soul. America 2000 includes categories for goals and objectives with benchmarks to be achieved. The categories are as follows:

1. Readiness for School.
2. High School Completion.
3. Basic Subjects.
4. Science and Math.
5. Adult Literacy and Lifelong Learning.
6. Safe, Discipline, and Drug-Free Schools.

Readiness for School has three objectives:

1. Preschool programs.
2. Parent as first teacher.
3. Nutrition and health care.

States and municipalities are encouraged to (a) adopt the six national goals, (b) set a community strategy for achieving them, (c) develop a report card to measure results and (d) agree to create a New American School.

Health People has three broad goals:

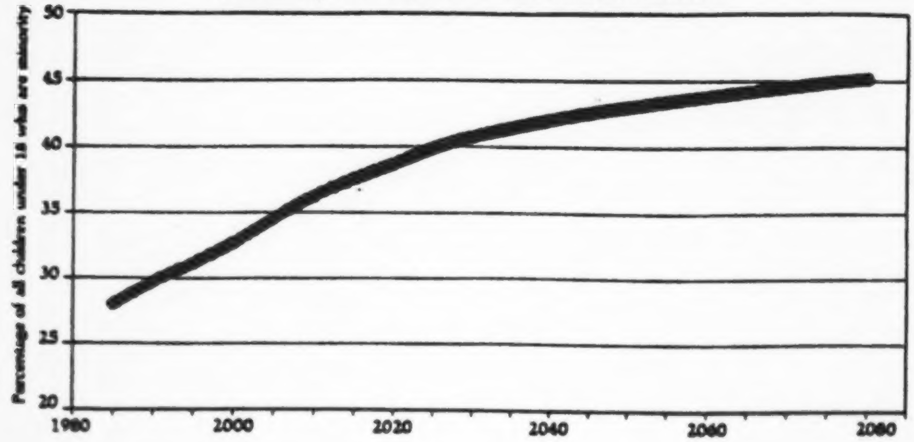
1. Increase the span of healthy life for Americans.
2. Reduce health disparities among Americans.
3. Achieve access to preventive services for all Americans.

Not too many years ago, the family, church, and neighborhood schools were units of society that were the bedrock of America. All of the above-mentioned units have undergone fundamental change. A mother is still the first bond to life but even that bridge has been altered considerably in the past decades. The church is a second unit intended to cultivate beliefs, ethics, morals, and spiritual values. The church has undergone fundamental repositioning of its stand on many basic issues and sometimes even abandoned the inner city.

The neighborhood elementary school was a second or third home, an extended family beyond the care givers and service providers in the "block." Sometimes one or more teachers were neighbors, certainly familiar with the family. The "lessons" learned by block care givers and service providers were often a more positive influence and reached deeper than the messages by a parent or sibling. Brown vs Topeka, Kansas, led the U.S. to a strategy which destroyed the neighborhood school concept and cost more than money.

Data by the Children's Defense Fund (CDF) indicates that minority children will increase in large number over the next decades and that America's children are getting poorer while the nation get richer (see Attachment 30). The U.S. ranked 22nd in the world in infant mortality among developed nations in 1989. CDF indicates that a black child

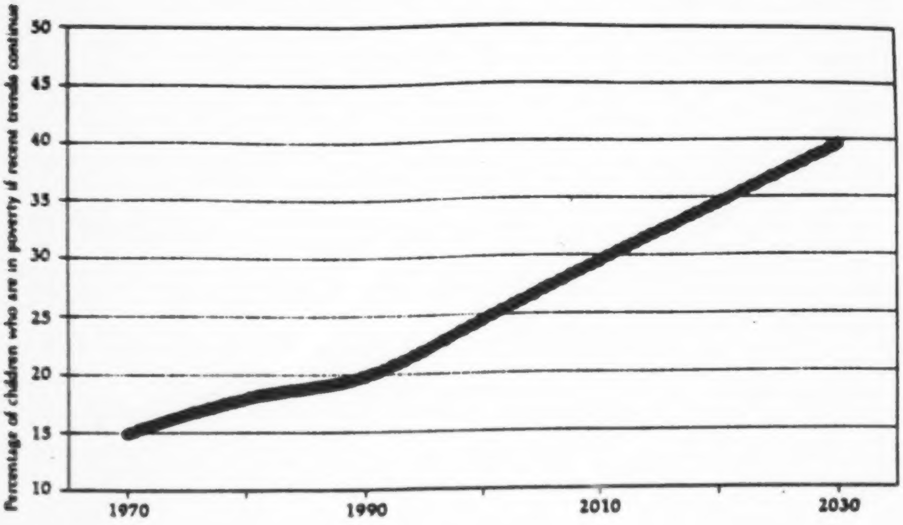
Minority Children in the United States



Year	1985	1990	1995	2000	2010	2020	2030	2050	2080
Percent	28.0%	29.7%	31.1%	32.7%	36.2%	38.7%	40.7%	43.0%	45.1%

Source: Based on Census Bureau projections.

America's Children Are Getting Poorer While the Nation Gets Richer



Year	1970	1980	1990	2000	2020	2030
Percent	14.9%	17.9%	19.8%	24.5%	34.5%	39.6%

- In the year 2000, if recent trends continue, there will be 16 million poor children in the United States, 3 million more than in 1987. One in every four children will be poor.
- By the year 2030, there will be 25 million poor children. One in every three children will be poor.

Source: CDF computations based on Census Bureau data.

is more than twice as likely as a white child to die in infancy, more than twice as likely to be born at low birthweight, more than three times as likely to be born to an unmarried mother, and nearly three times as likely to be poor (Progress and Peril, 1993) California data indicate that female-headed families are more likely to require assistance and have increased 16.7% between 1950 and 1990 (see Attachment 31). Research shows that teenage women in California fell by over 7% between 1980 and 1990 but the number of children born to unmarried teenage mothers rose by 70% (see Attachment 32).

A three-year study by the Carnegie Corp. of New York indicates that

> Physically and emotionally healthy children, ready to learn and with good chances of becoming productive adults, don't turn into criminals, welfare recipients, school dropouts, unskilled labor unable or unwilling to find work, and the parents of illegitimate children who will repeat the doomed cycle" (Carnegie, 1994).

The Carnegie report ranked the United States last among industrialized nations in three categories: health care for children, subsidized child care, and family leaves for parents with young children. Lisbeth Schorr, a lecturer in social medicine at Harvard University stated

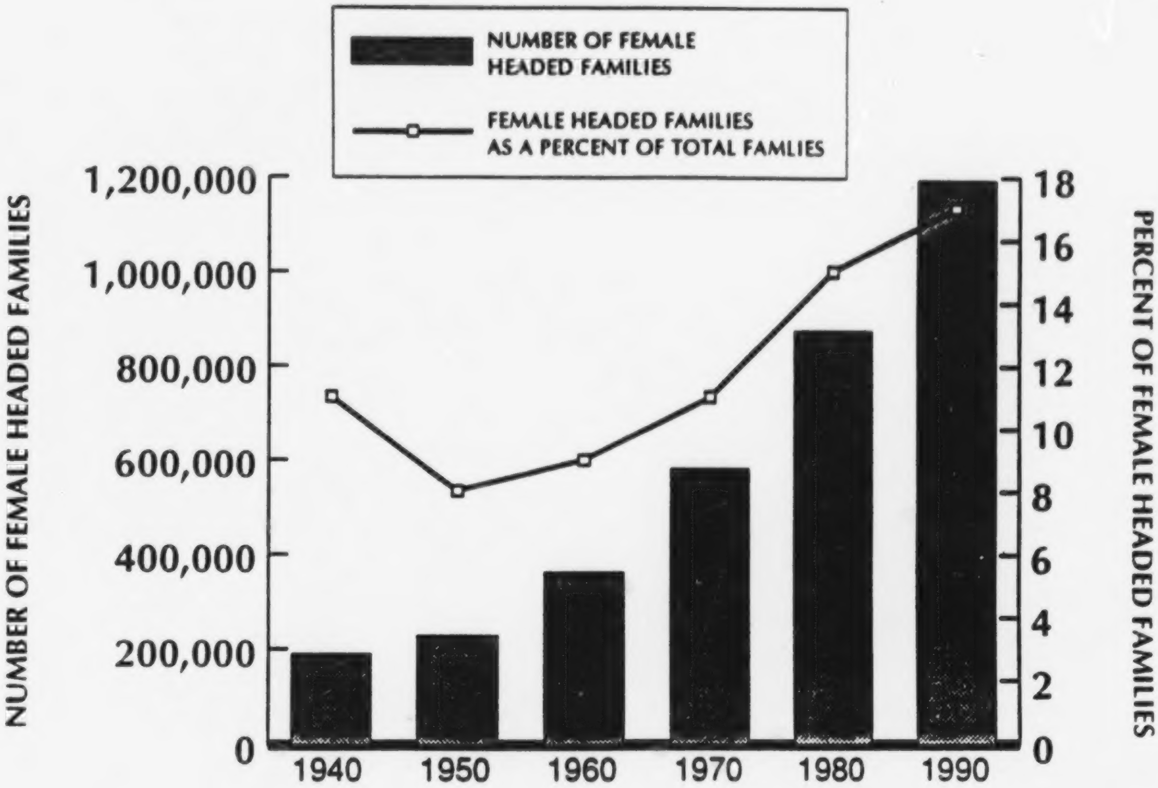
> It is remarkable how much unchallenged knowledge about the importance of the early years the welfare reformers, federal and state, are managing to ignore.... The scientific evidence documenting the early roots of crime and violence is overwhelming.... Society pays dearly when the fundamental building blocks of health development are not in place during the infant and toddler years" (Neglected Kids, 1994).

Nationally, less than 60% of all children were fully vaccinated at age 2 in 1992 (Powers, 1993)

Choosing the Future (1993) consists of three broad directions, one of which is Enhanced Learning Opportunity. Enhanced Learning Opportunity Strategy 3 is to "Introduce an articulated system of degrees and certificates that sets clear milestones for academic accomplishments, progress toward transfer to four- year universities, and advancement on professional career ladders."

Numerous issues will be important in the years ahead. No issue will be more important, however, than improving the quality of life for infants and toddlers and their families. Schools and colleges offer programs to prepare care givers and service providers in health and social services "front line" occupations. Several different strategies have been implemented to create High Performance Learner Workers. The Boston Private Industry Council developed a ProTech Student development model for many occupations (see Attachment 33).

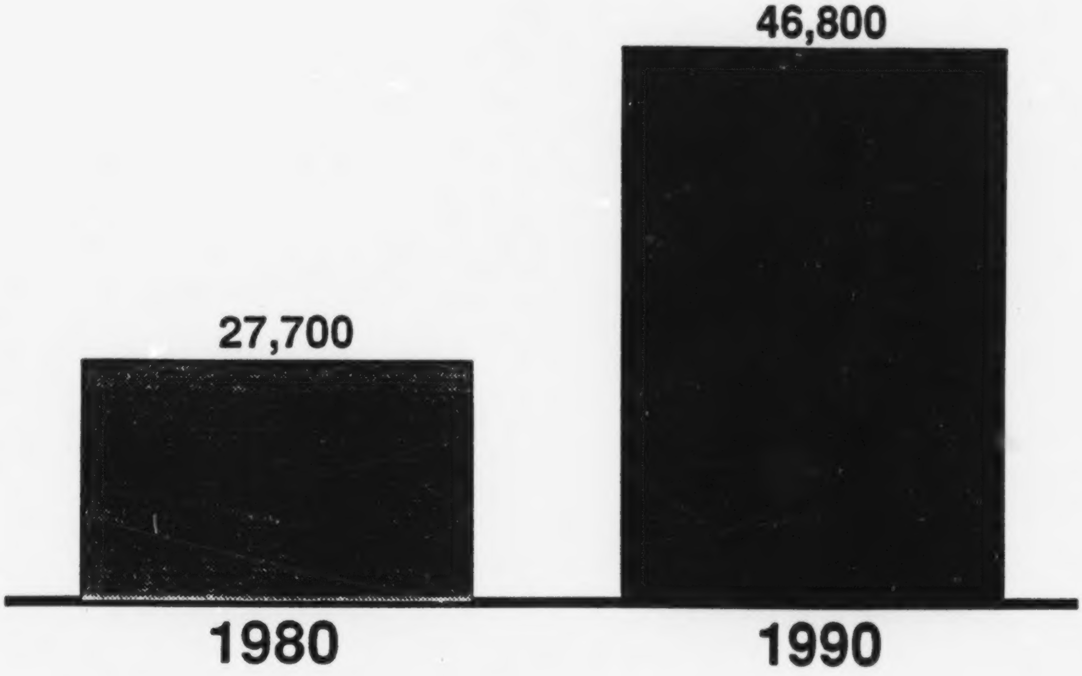
FEMALE-HEADED FAMILIES IN CALIFORNIA
1940 - 1990



Source: U.S. Bureau of the Census

- Female-headed families are the group most likely to require assistance since they tend to have lower incomes than two-parent families. In 1950, 7.9 percent of families were female-headed; by 1990 their share of total families had more than doubled to 16.7 percent.

NUMBER OF CHILDREN BORN TO UNMARRIED TEENAGE MOTHERS IN CALIFORNIA



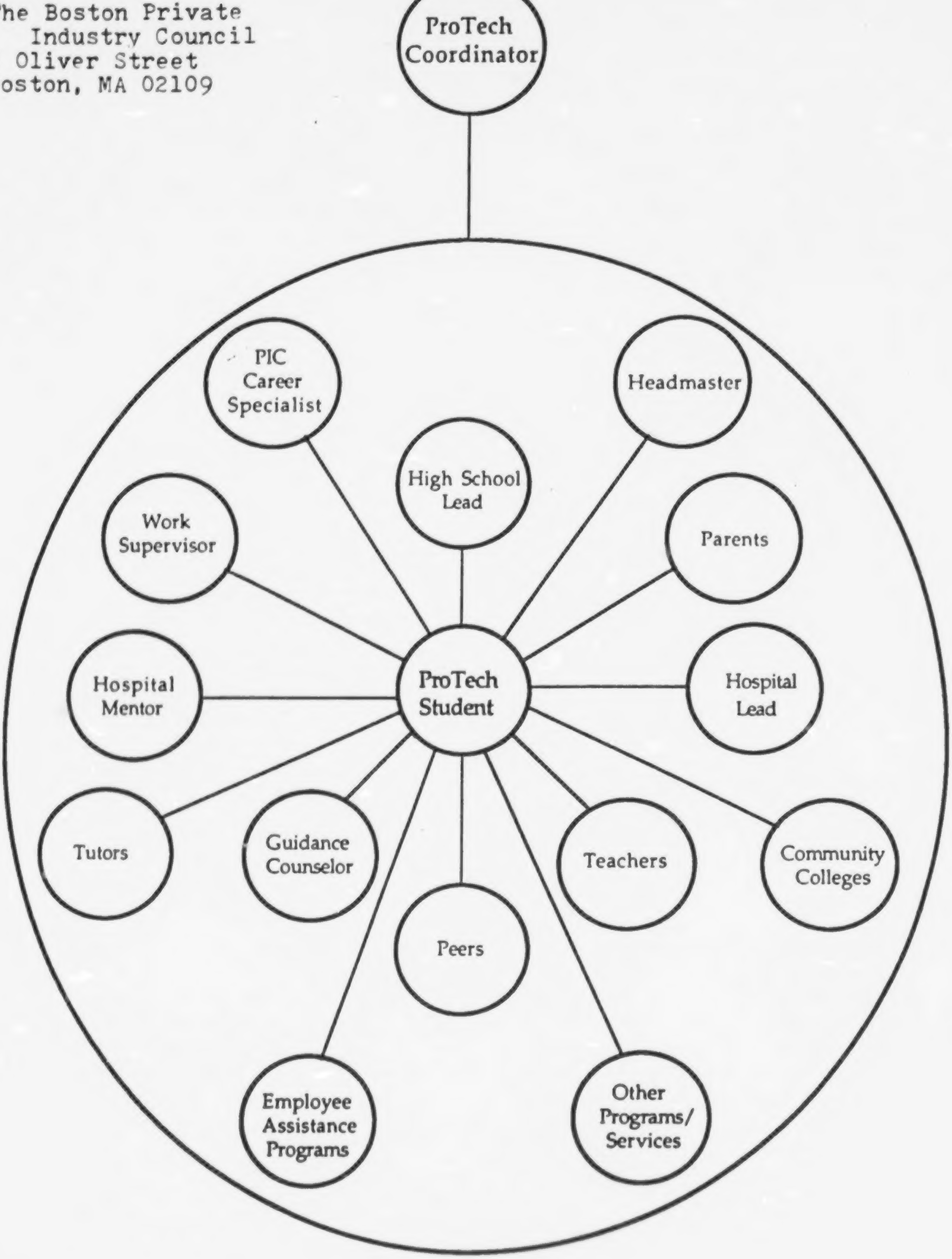
- Research shows that teenage mothers are especially prone to longer-term welfare dependency. Over 50 percent of AFDC mothers in California had their first child as a teenager.

- Between 1980 and 1990 the number of teenage women in California between the ages of 15-19 years fell by over seven percent--from 1,054,000 to 975,500. Over this same period, the number of children born to unmarried teenage mothers rose dramatically from around 27,700 to 46,800--a 70 percent increase. Two out of every three children born to teenage mothers in 1990 were born to households where the mother was unmarried.

PRO
TECH

STUDENT SUPPORT STRATEGY

The Boston Private
Industry Council
2 Oliver Street
Boston, MA 02109



Imagine colleges and school districts collaborating with care givers and service providers to create a vision to focus on Readiness objectives. The vision could be "A Comprehensive Early Childhood Wellness Program" as the centerpiece with detailed multi-year action plans for implementation (McDaniel, 1993)(see Attachment 34). Imagine college and school district personnel collaborating on the specifications of full service caring and learning environments and then creating fully articulated programs with Certificates of Initial Mastery (CIM) and Certificates of Advanced Mastery (CAM) through an Associate Degree Tech Prep (ADTP) program, a career ladder to senior institutions. To prepare new types of High Performance Learner Workers, a strategic and operational plan may have to be developed for a "Full Service Community Family Center" for training purposes (Loftin, 1994). Such a facility paired with a distance education capability could lead to a "21st Century Learning and Health Care in the Home" system displayed earlier in this document. Finding Common Ground (Jones, 1993) is a step toward Building Communities of Care (1993).

A next increment would be in Making Government Work 1993) through the electronic delivery of data and services. Creating A Government That Works Better and Costs Less (1993) will fundamentally restructure services at national, state and local levels (see Attachment 35 and Appendix B 5). The Empowerment Zone and Enterprise Community programs will fundamentally restructure services at the local level. What information is available from the Department of Health and Human Service (DHHS) or the Department of Education (DE)? What are the implications for collaboration between the Center for Disease Control and Prevention (CDCP) and the Office of Special Education and Rehabilitative Services (OSERS)? What online databases at DHHS and CDCP can be accessed through information networks to promote health? What online databases at CDCP and OSERS can be accessed through information networks to promote quality of life improvement objectives of America 2000 Goal 1? Will the intended clients be empowered beneficiaries of the newly restructured services? Health education could be provided via computer based distance eduation through freenets (Conklin, 1993, Ricart, 1993)(see Attachment 36).

Heather McDaniel was a doctoral student in the Child and Youth Studies at Nova Southeastern University where she created EDUCARE which is being implemented. Christine D. Loftin was a doctoral student in the vocational, technical, and occupational education specialization in the Programs for Higher Education where she completed several practicums related to the "Full Service Community Family Center" which was funded by the college's board of trustees. Jack Conklin also was a VTOE-PHE doctoral student who developed strategic plans for distance education in social work education.

COMPONENTS OF A COMPREHENSIVE EARLY CHILDHOOD WELLNESS PROGRAM

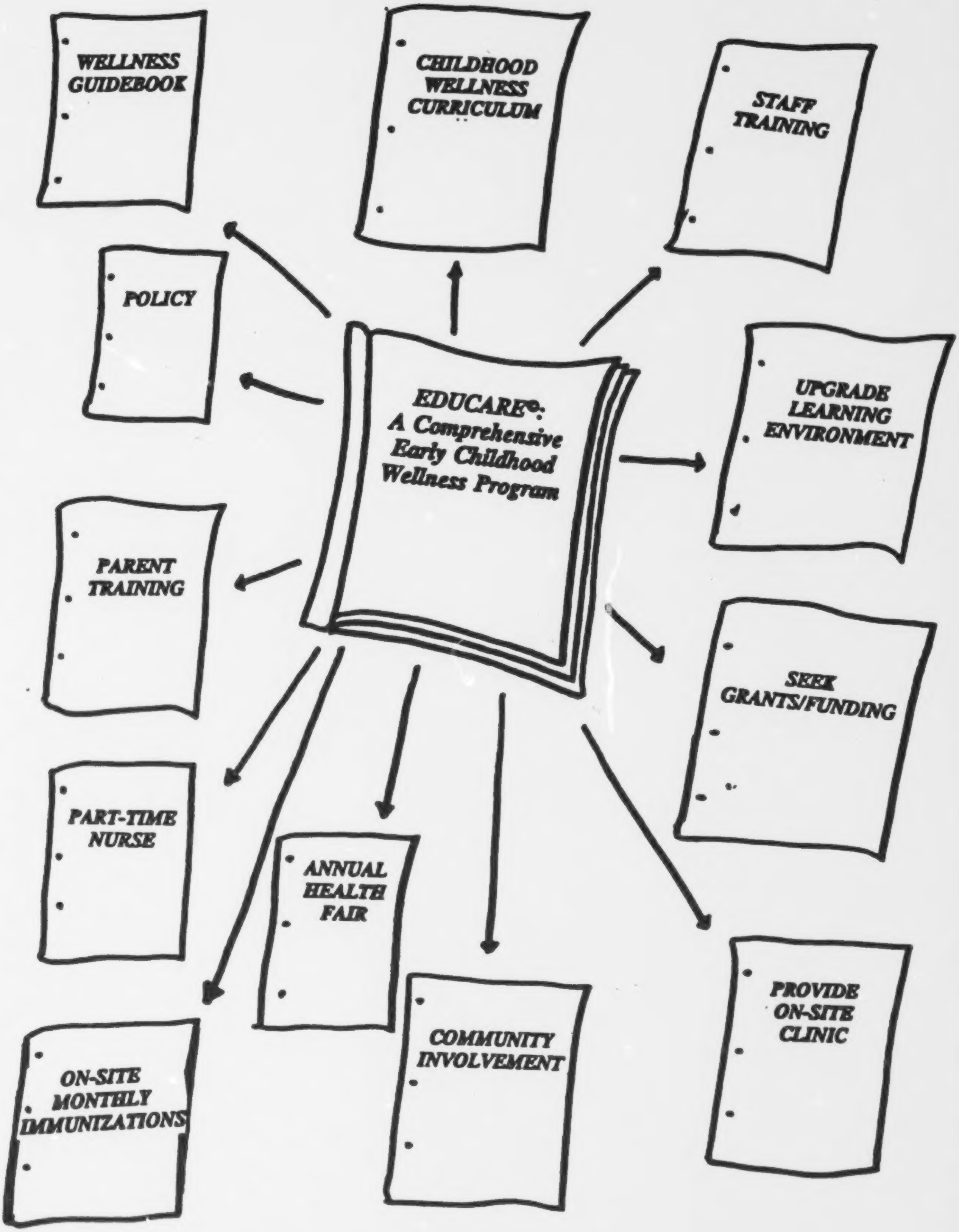
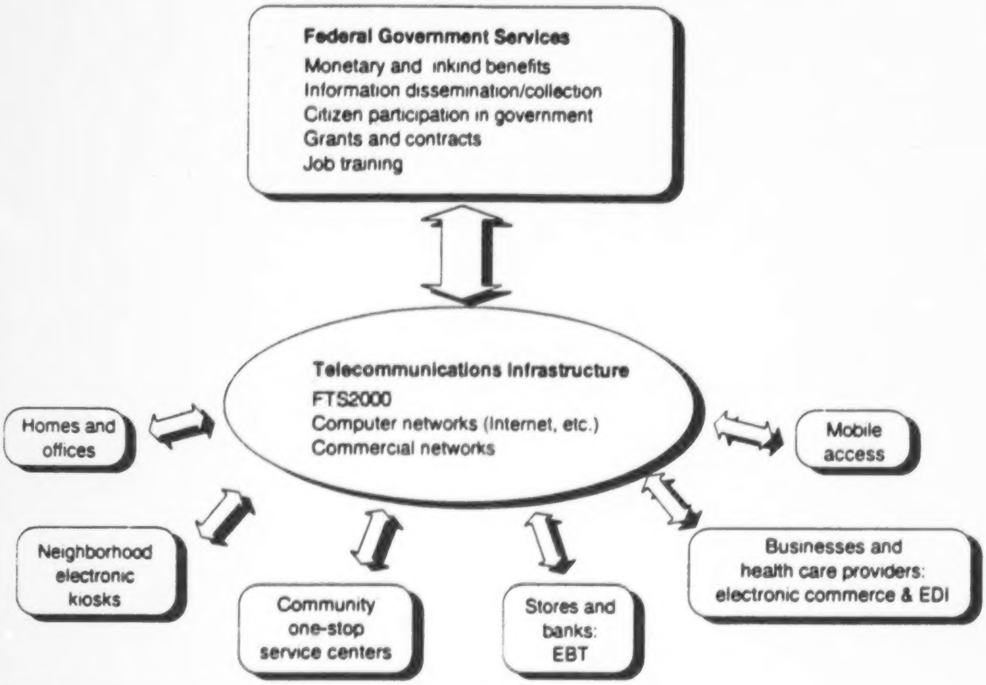


Figure 3-1—Role of Telecommunications Infrastructure in Delivering Federal Services Via Six Points of Access

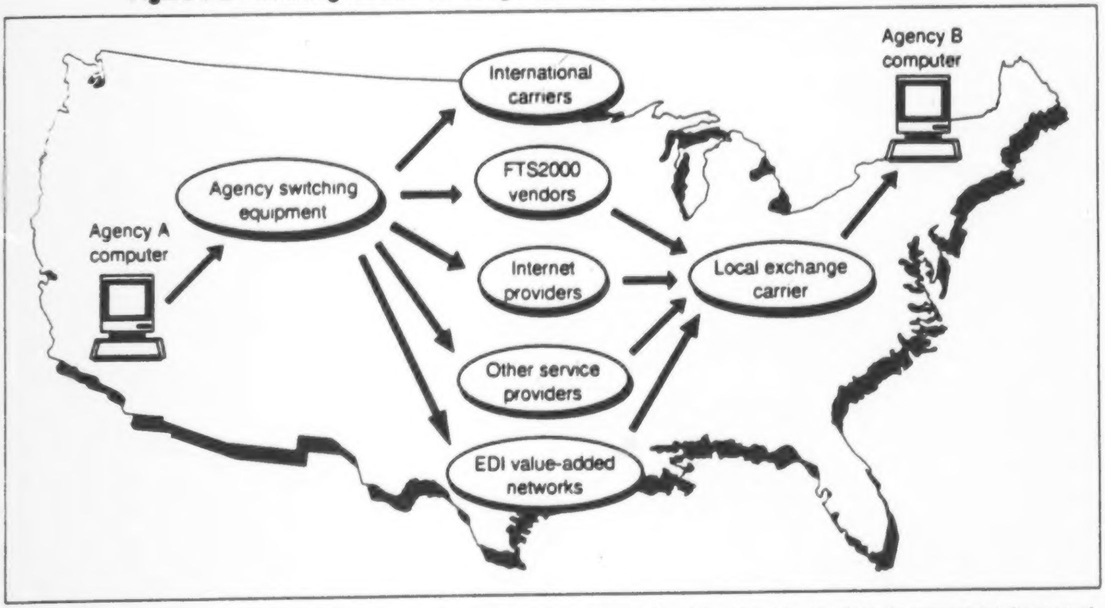

Federal Government Services
Monetary and inkind benefits
Information dissemination/collection
Citizen participation in government
Grants and contracts
Job training
Telecommunications Infrastructure
FTS2000
Computer networks (Internet, etc.)
Commercial networks
Homes and offices
Mobile access
Neighborhood electronic kiosks
Community one-stop service centers
Stores and banks: EBT
Businesses and health care providers: electronic commerce & EDI

NOTE: The Federal services and infrastructure components shown are illustrative, not comprehensive.

KEY: EBT=Electronic Benefits Transfer; EDI=Electronic Data Interchange; FTS2000=the Federal long-distance telecommunications program.

SOURCE: Office of Technology Assessment, 1993.

Figure 3-2—Existing Routes for Long-Distance Government Telecommunications



NOTE: The routes shown are illustrative. In this example, the sending agency (Agency A) switches the data directly to the appropriate telecommunications provider. At the receiving end, the local exchange carrier switches the data to the receiving agency (Agency B).

KEY: EDI=Electronic Data Interchange; FTS2000=Federal long-distance telecommunications program.

SOURCE: Office of Technology Assessment, 1993.

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YOUNGSTOWN FREENET MAIN MENU

1 Administration
2 Post Office
3 The Public Square
4 The Communications Center
5 The Animal Hospital
6 The Business & Industrial Park
7 The Computer Center
8 The Courthouse
9 The Government Center
10 The Hospital
11 The House of Worship
12 The Human Services Building
13 The Teleport
14 The USA/Today Headline News
15 Youngstown State University
16 Academy One

h=Help, x=Exit YFN, "go help"=extended help
Your Choice ==>

CASE WESTERN RESERVE UNIVERSITY
COMMUNITY TELECOMPUTING LABORATORY

CLEVELAND FREE-NET DIRECTORY

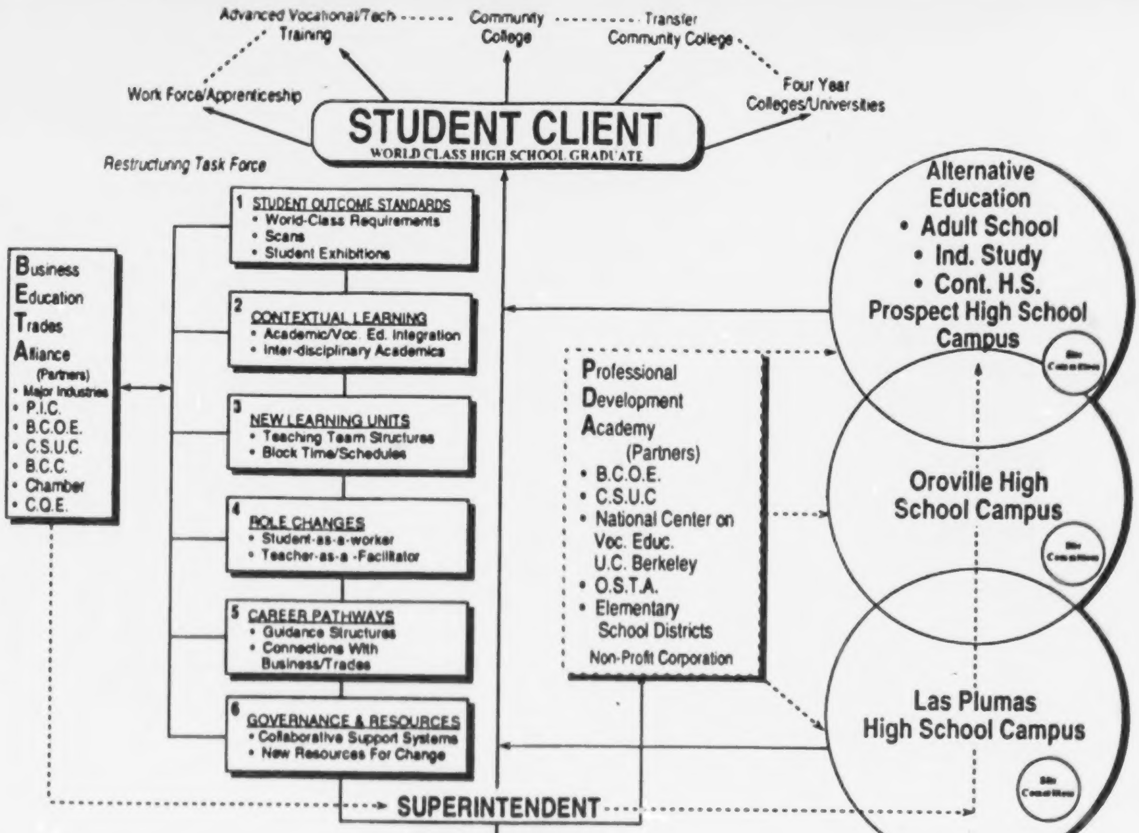
1 The Administration Building
2 The Post Office
3 Public Square
4 The Courthouse & Government Center
5 The Arts Building
6 Science and Technology Center
7 The Medical Arts Building
8 The Schoolhouse (Academy One)
9 The Community Center & Recreation Area
10 The Business and Industrial Park
11 The Library
12 University Circle
13 The Teleport
14 The Communications Center
15 NPTN/USA TODAY HEADLINE NEWS
16 SPECIAL FEATURES

Math, Science, and Technology

U.S. preeminence was attributable, to a great extent, to investment in Research and Development and HRD to produce the critical mass of intellectual capital -- mathematicians, scientists, and engineers. When the Sputniks were launched in 1957, the U.S. began to analyze the disciplines of math and science and design new content and process formats to retool the way the subjects were taught. Math, science, and technology have become increasing more important and will be even more essential in the advanced technical era of the 21st Century. How to prepare the critical mass of High Performance Learner Workers with appropriate competencies and skills for the workplaces of the future is a critical issue for all of the 24 countries belonging to the Organization for Economic Co-operation and Development (OECD). OECD is conducting the international study "The Changing Role of Vocational and Technical Education" and one U.S. contribution is Vocational-Technical Education (1993).

Many projects have been launched to improve education. LaGuardia Community College collaborated with the New York City School and created a Middle College High School which began in 1974. It is an alternative high school on a college campus and has an outstanding record of impacting on the dropout problem. The idea was replicated by Shelby State Community College and the Memphis City Schools at the Mid-Town Campus beginning in 1987-88 and has an equally impressive record. The Tennessee State Board of Regents' initiatives to improve quality and access in higher education included the endorsement of Project EQuality standards in the core subject areas. Collaboratives were launched in each of the core areas. High Technology High Schools have been stated on community college campuses in Monmouth and Camden Counties in New Jersey. The National Summit on Integration and Tech Prep in 1993 included some excellent models from Oroville Union High School District, CA, and the Cleveland Public Schools and Cuyahoga Community College (see Attachment 37 and 38). New American Schools Development Corporation projects represent new models.

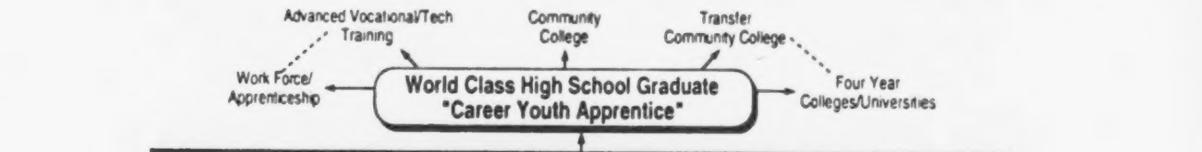
California unemployment has been higher than the U.S. average for the past years (see Attachment 39). Despite the slow growth in manufacturing jobs, industries that will be among the most rapidly growing are printing and publishing, electrical equipment, and instruments and related equipment (see Attachment 40). Synchronization of the education program structure with employment needs is extremely difficult during periods of economic restructuring due to complex rapid technological change and global competition. Numerous states have launched technology education programs. Pennsylvania has been selected for reasons that will become apparent to the reader.


Advanced Vocational/Tech Training
Community College
Transfer Community College
Work Force/Apprenticeship
Four Year Colleges/Universities
STUDENT CLIENT
WORLD CLASS HIGH SCHOOL GRADUATE
Restructuring Task Force
1 STUDENT OUTCOME STANDARDS
• World-Class Requirements
• Scans
• Student Exhibitions
2 CONTEXTUAL LEARNING
• Academic/Voc. Ed. Integration
• Inter-disciplinary Academics
3 NEW LEARNING UNITS
• Teaching Team Structures
• Block Time/Schedules
4 ROLE CHANGES
• Student-as-a-worker
• Teacher-as-a-Facilitator
5 CAREER PATHWAYS
• Guidance Structures
• Connections With Business/Trades
6 GOVERNANCE & RESOURCES
• Collaborative Support Systems
• New Resources For Change
Business Education Trades Alliance
(Partners)
• Major Industries
• P.I.C.
• B.C.O.E.
• C.S.U.C.
• B.C.C.
• Chamber
• C.Q.E.
Alternative Education
• Adult School
• Ind. Study
• Cont. H.S.
Prospect High School Campus
Professional Development Academy
(Partners)
• B.C.O.E.
• C.S.U.C
• National Center on Voc. Educ. U.C. Berkeley
• O.S.T.A.
• Elementary School Districts
Non-Profit Corporation
Oroville High School Campus
Las Plumas High School Campus
SUPERINTENDENT

BOARD OF TRUSTEES

Restructuring Planning Process

Oroville Union High School District


Advanced Vocational/Tech Training
Community College
Transfer Community College
Work Force/Apprenticeship
Four Year Colleges/Universities
World Class High School Graduate "Career Youth Apprentice"
• Senior Project/Exhibition • Scans - Certificate Of Mastery • Model Transcript/Diploma
(4 Day School Schedule) CAREER YOUTH APPRENTICESHIP (1 Day Job Related Skills)
Arts and Communication Institute
Business, Computers & Marketing Institute
Agriculture & Environmental Science Institute
Health & Human Services Institute
Industrial Technology & Engineering Institute
Social and Governmental Services
Foods, Fashion and Design Institute
150 Students 6 Teachers
(Butte College - Chico State Univ.) SENIOR DIVISION (Adult School - R.O.P.)
• High Performance C.A.P Scores • Scans - Initial Certificate • District Proficiency Standards/Exhibition.
PARADIGM HOUSE
SEQUOIA HOUSE
PACIFIC RIM HOUSE
CHALLENGE HOUSE
MEDIA HOUSE
CROSS ROADS HOUSE
(200 Students - 7 Teachers)
ENGLISH
MATH
SCIENCE
HISTORY
PHYSICAL ED.
R.S.P.
L.E.P.
Change
Natural Resources
International
Physical
Communication
Service
JUNIOR DIVISION
Summer: "Learning The Ropes" High School Academic Orientation
Business Education Trades Alliance
(Partners)
• Major Industries
• P.I.C.
• B.C.O.E.
• C.S.U.C.
• B.C.C.
• Chamber
Professional Development Academy
(Partners)
• B.C.O.E.
• C.S.U.C
• National Center on Voc. Educ. U.C. Berkeley
• O.S.T.A.
Non-Profit Corporatic
SUPERINTENDENT
(Member, Board of Directors)

BOARD OF TRUSTEES

Restructuring Planning Process

Oroville Union High School District

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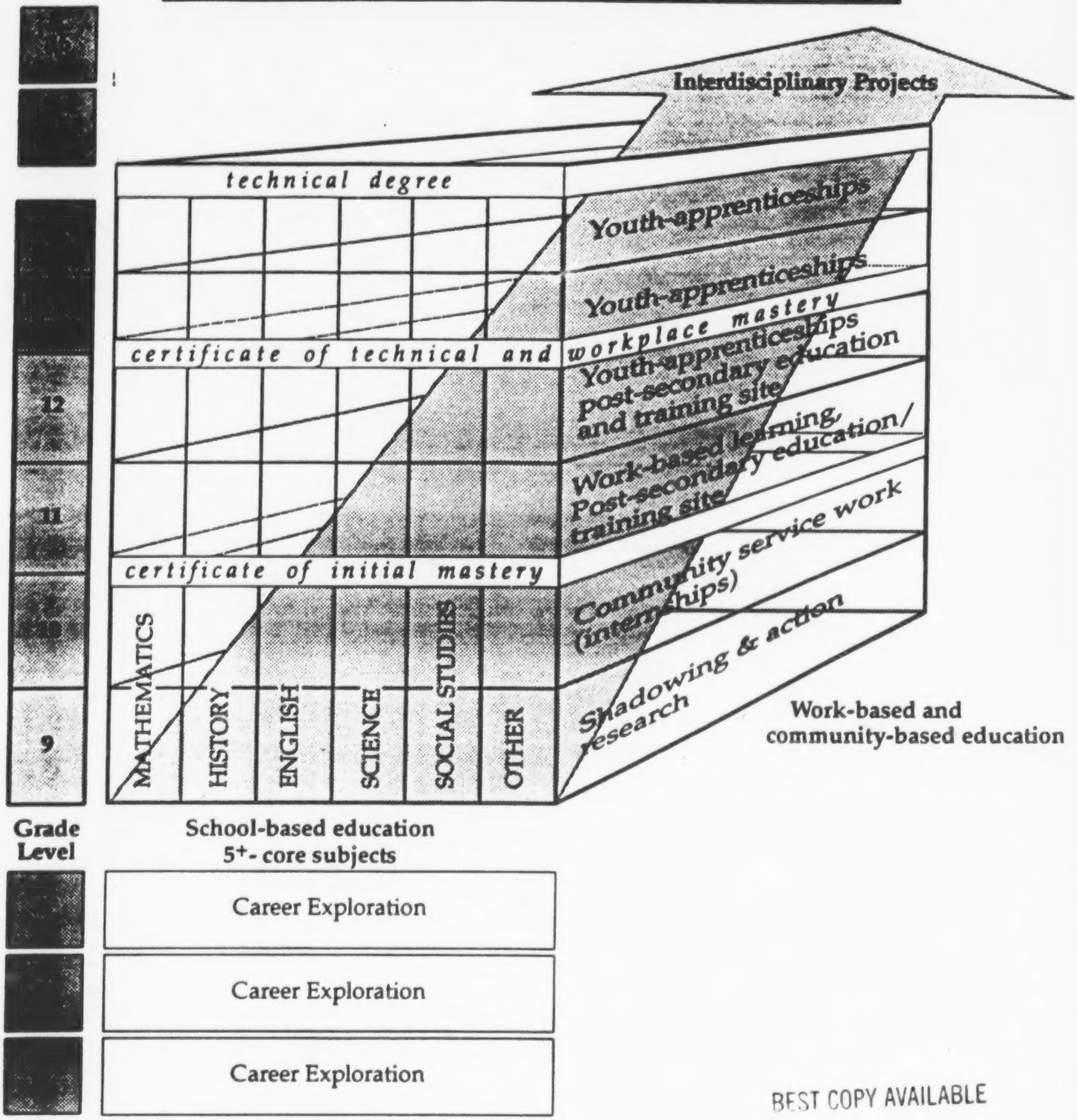
Project S.M.A.R.T.

A collaborative venture of Cleveland Public Schools, Cuyahoga Community College, Cleveland Tomorrow, and Cleveland's Center for Advanced Manufacturing, BP America, and Youth Opportunities, Unlimited (an operating parter of the Cleveland Initiative for Education)


Interdisciplinary Projects
technical degree
Youth-apprenticeships
Youth-apprenticeships
certificate of technical and workplace mastery
Youth-apprenticeships post-secondary education and training site
Work-based learning, Post-secondary education/ training site
certificate of initial mastery
Community service work (internships)
Shadowing & action research
12
11
10
9
MATHEMATICS
HISTORY
ENGLISH
SCIENCE
SOCIAL STUDIES
OTHER
Grade Level
School-based education
5+- core subjects
Work-based and community-based education
Career Exploration
Career Exploration
Career Exploration

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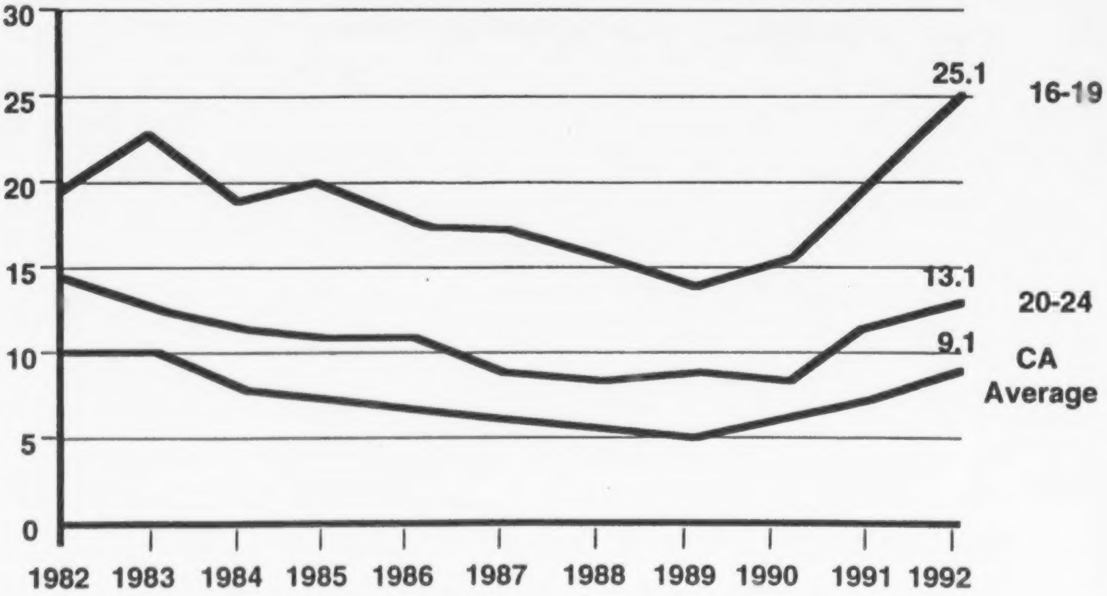
3-D MATRIX LINKING SCHOOL-BASED TO WORK BASED LEARNING (including youth apprenticeships and post-secondary institutions for grades 9-14)

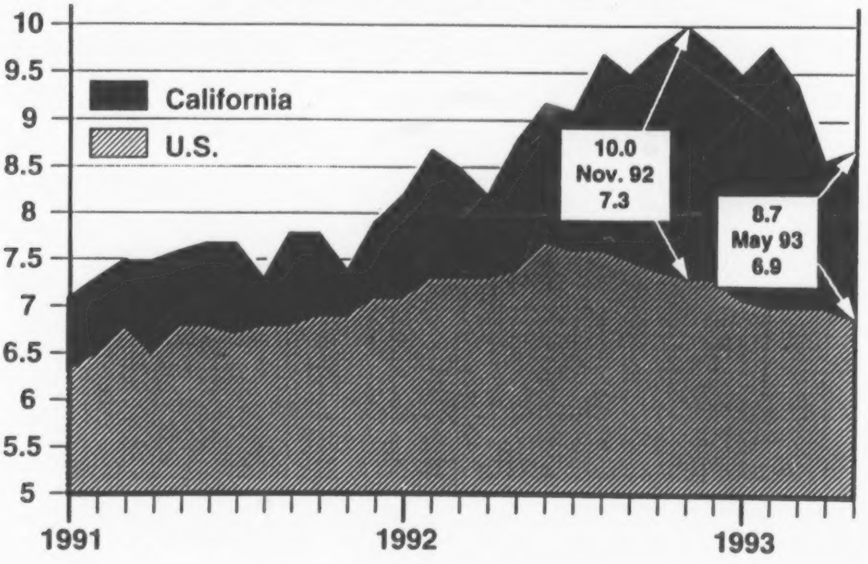
prepared by Education Development Center, Inc. 1992

CALIFORNIA UNEMPLOYMENT RATE
1982 - 1992
(Annual Percent Change)



Source: U.S. Department of Labor, Bureau of Labor Statistics

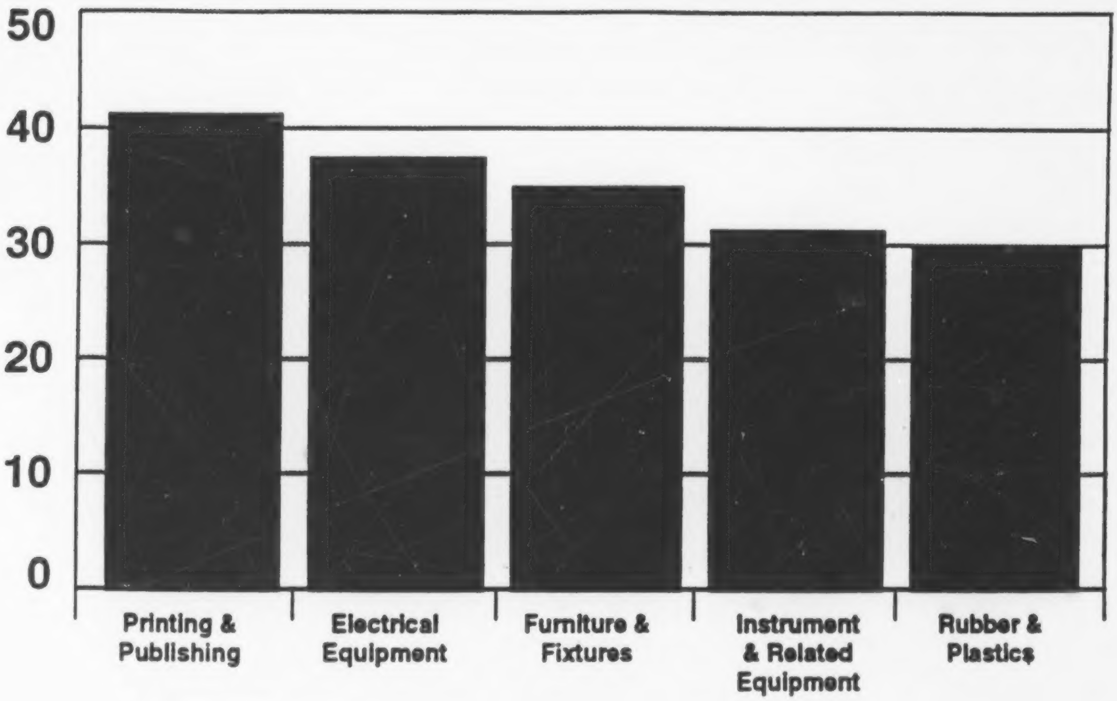
CALIFORNIA vs. U.S.
UNEMPLOYMENT RATE
1991 - 1993
(Percent, Seasonally Adjusted)



Source: U.S. Department of Labor, Bureau of Labor Statistics; Current Population Survey

FASTEST GROWING MANUFACTURING INDUSTRIES: 1987 - 2000*

(Percentage of Growth)



- Despite the overall slow growth in manufacturing employment, some manufacturing industries will be among the most rapidly growing.

* (Does not include impact of recent defense spending cutbacks, which will reduce growth projections in some industries.)

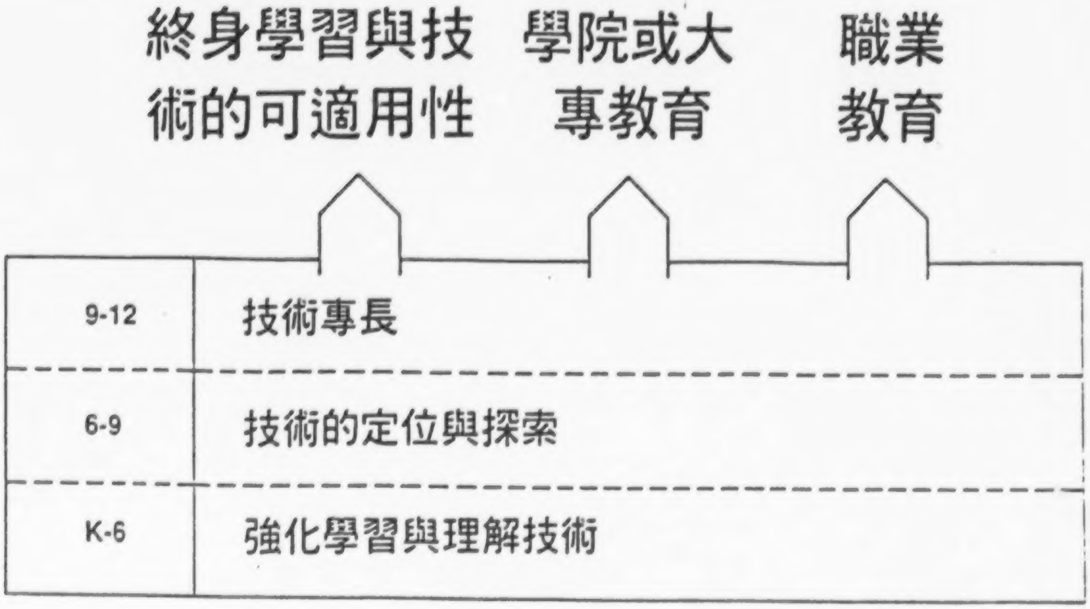
Source: Employment Development Department

The Pennsylvania State Board of Education adopted Twelve Goals of Quality Education in the 1960s. The state curriculum guides recommended that industrial arts programs include electricity, graphic arts, plastics, and other areas of study. In 1969 the Pennsylvania Department of Education recommended teaching industrial arts in three broad cluster areas -- Visual Communications, Industrial Materials, and Power Technology. State guidelines began to make reference to K-12 technology education in 1984. The State Board specified student learning outcomes. In 1993, the State Board revised the curriculum regulations and approved six Common Core goals and nine Academic goals. Common Core goals are self worth; information and thinking skills; learning independently and collaboratively; adaptability to change; ethical judgment; honesty, responsibility, and tolerance. Academic goals are communications, mathematics, science and technology, environment and ecology, citizenship, arts and humanities, career education and work, wellness and fitness, and home economics.

In Pennsylvania, technology education encompasses the total school program, K-12. Students who go through an articulated technology education should be better prepared for lifelong learning and technological adaptability, college or postsecondary education, or vocational education. The focus in the K-6 years is on learning reinforcement and technological awareness. In grades 6-9, the focus is on orientation and exploration of technology. Specialization in technology occurs in grades 9-12 (see Attachment 41).

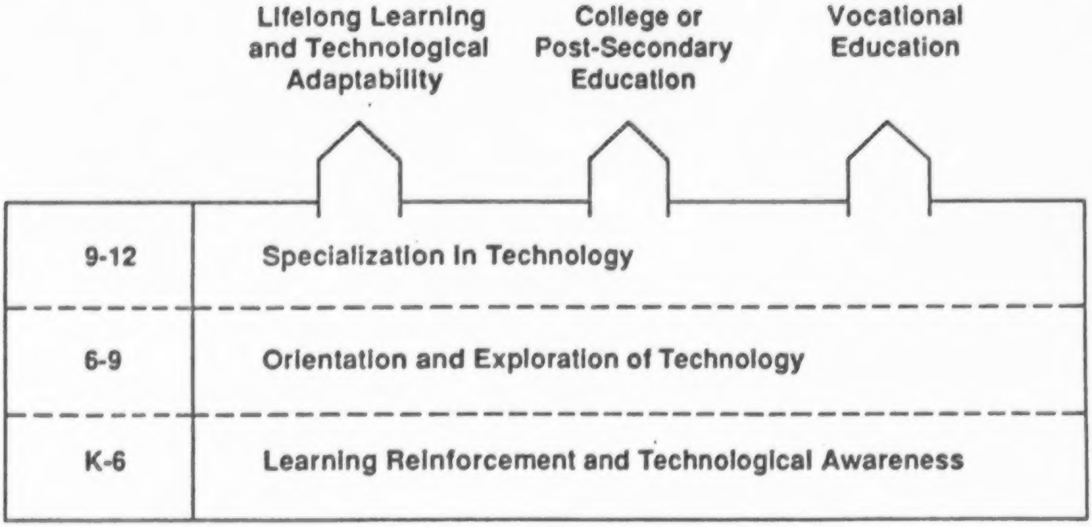
Technology education in Pennsylvania is based on five systems: communications, transportation, manufacturing, construction, and bio-related. Inputs, processes, and outputs are specified for each of the five systems (see Attachment 42). School districts have flexibility to develop instructional materials to match the economy of which they are a part. For example, a school district could focus many learning activities on the bio-related and communications systems if the economy had a concentration in biotechnology. School districts are implementing strategic planning to achieve student learning outcomes.

The **Research and Engineering Council** (REC) of the Graphic Arts Industry is located in Chadds Ford, PA, just south of Philadelphia. The REC monitors technological advances in the industry and sponsors training programs. **The Graphic Arts Technical Foundation** (GAFT), located in Pittsburgh, PA, uses task analysis to create training programs for the industry. The "**National Printing Skills & Knowledge Standards Project**" is coordinated by GAFT. It is one of the 22 skills specification projects funded by the U.S. Department of Education. The group will set skills standards over the next three years and test some online.



終身學習與技術的可適用性　學院或大專教育　職業教育

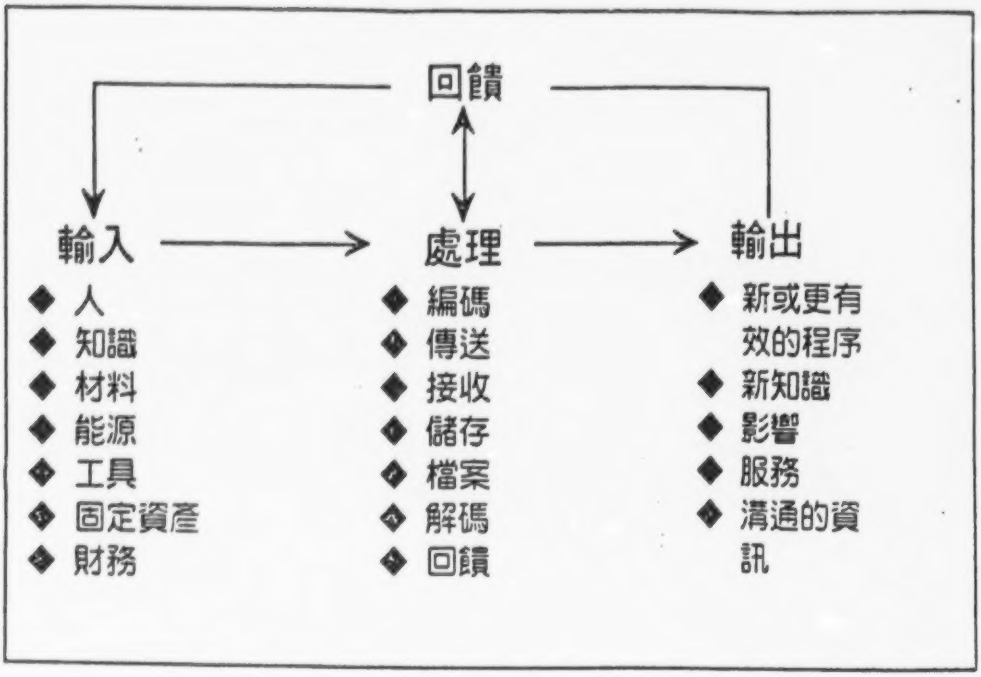
9-12	技術專長
6-9	技術的定位與探索
K-6	強化學習與理解技術



Lifelong Learning and Technological Adaptability　College or Post-Secondary Education　Vocational Education

9-12	Specialization in Technology
6-9	Orientation and Exploration of Technology
K-6	Learning Reinforcement and Technological Awareness

溝通系統



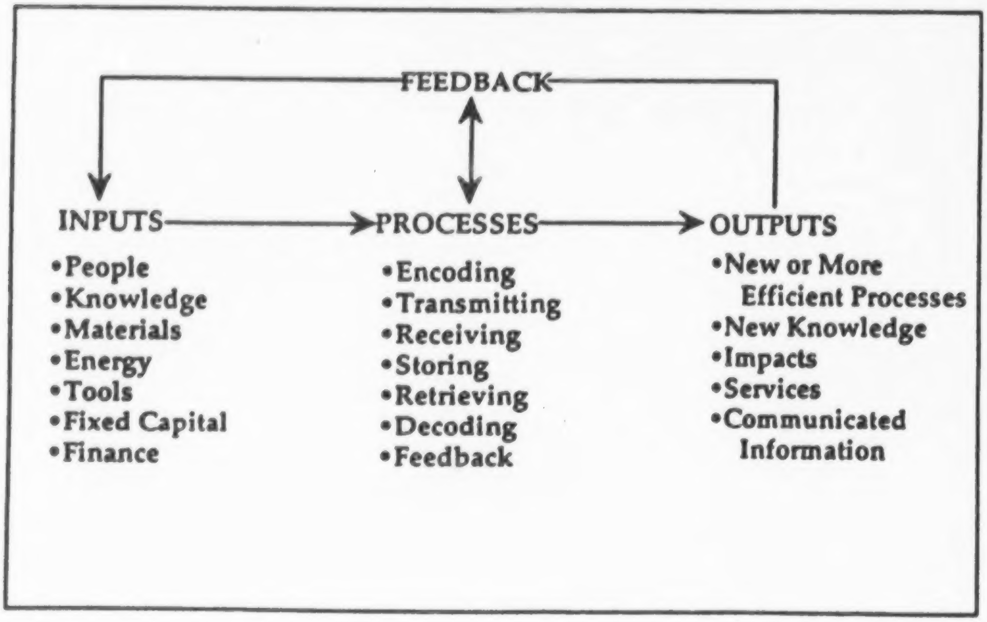
回饋

輸入
- 人
- 知識
- 材料
- 能源
- 工具
- 固定資產
- 財務

處理
- 編碼
- 傳送
- 接收
- 儲存
- 檔案
- 解碼
- 回饋

輸出
- 新或更有效的程序
- 新知識
- 影響
- 服務
- 溝通的資訊

THE COMMUNICATION SYSTEM



FEEDBACK

INPUTS
- People
- Knowledge
- Materials
- Energy
- Tools
- Fixed Capital
- Finance

PROCESSES
- Encoding
- Transmitting
- Receiving
- Storing
- Retrieving
- Decoding
- Feedback

OUTPUTS
- New or More Efficient Processes
- New Knowledge
- Impacts
- Services
- Communicated Information

Problems in the real world simply do not break down into the elements of the disciplines of math, science, and technology. There are more effective ways to package the knowledge needed to create solutions to sequence problems. America needs to invent new packaging formats. California and Pennsylvania have a unique opportunity to exercise bold, creative, imaginative leadership in (a) inventing a next generation learning community focused on graphic communications in the U.S. and (b) creating "A Sino American Partnership for An Advanced Technical Era" and with other Pacific Rim countries. California has 33 programs in graphic communications at the postsecondary level (see Attachment 43). Pennsylvania has many high quality graphic communications and printing departments and a strong technology education program. All Pennsylvania school districts must create strategic plans and specify how they will achieve student learning outcomes. Pittsburgh and San Diego are NSF supercomputer sites. Philadelphia and Pittsburgh are PREPnet hubs (see Appendix B 6). Pittsburgh also has the Learning Resources Development Center (LRDC).

During the late 1970s and early 1980s, several colleges developed **fully articulated** 2+2 programs with area high schools and even had a few 2+2+2 articulated programs with universities. Several colleges and schools improved **synchronization** of student learning outcomes competencies with workforce and workplace needs through strategic planning. This required a major commitment of resources. Today, this can be accomplished electronically. An on-line format can accomplish **vertical articulation** between the layers of the bureaucratic levels, **horizontal integration** between academic and technical units, and the **synchronization with workforce and workplace needs.** Furthermore, the electronic format makes it possible to access resources from throughout many parts of the world.

The Six-Year National Development Plan for Taiwan, Republic of China (1991-1996) contains many macroeconomic development targets that relate directly to education (see Attachment 44). The strategic plan for the Printing Technology Department at National Taiwan Normal University will create a comprehensive state-of-the-art campus-based graphic communications and printing program at undergraduate and graduate levels that can be expanded over the next years to a distance education format. Imagine students at all levels in California and Pennsylvania interacting electronically in real time on desktop ATMs. Imagine undergraduate students learning about and through contemporary technology in graphic communications and printing. Imagine first level graduate students engaged in learning more about advanced technology. Imagine doctoral students teaming with content experts and specialists to create electronic books which will be distributed throughout the entire Republic of China and the United States.

Colleges Offering Courses in Graphic Communications

American Institute of Printing & Graphic Arts
Antelope Valley College
Californai Polytechnic State University
California State University-Chico
California State University-Fresno
California State University-Long Beach
California State University-Los Angeles
City College of San Francisco
College of the Redwoods
Compton Community College
Don Bosco Technical Institute
East Los Angeles Occupational
Fresno City College
Fullerton College
Golden West College
Harbor Occupational Center
Laney College
Los Angeles Harbor College
Los Angeles Trade-Technical College
Mission College
Mission Community College Center
Modesto Junior College
Moorpark College
Palomar College
Pasadena City College
Riverside Community College
Sacramento City College
Saddleback Community College
San Francisco State University
San Joaquin Delta College
Santa Barbara City College
Santa Monica College
West Valley Occupational Center

Directory (1993-94). Pittsburgh, PA: Graphic Arts and Research Foundation.

The Six-Year National Development Plan for Taiwan, Republic of China (1991-1996)

—Macroeconomic Development Targets—

3. Upgrade the quality of instruction at all levels of education, strengthen vocational training to ensure an ample supply of high-quality manpower, and improve working conditions in all industries to encourage willingness to work and to meet the needs of industrial development.

    (1) Promote the balanced development of education at all levels and all localities, improve the vocational education system, expand the capacity of higher educational institutions, and actively promote scientific and technical education.

    (2) Streamline the vocational training system and encourage companies to provide on-the-job and continuing training and educational opportunities, in order to upgrade and improve employee skills.

    (3) Improve working conditions and establish a mechanism for the resolution of grievances and disputes, in order to ensure harmonious industrial relations.

Workforce Transition Center

Choosing the Future (1993) consists of three broad objectives including "Expand Economic Development Role." Expand Economic Development Role Strategy 4 is to "Support community colleges to collaborate with other agencies to develop Workforce Transition Centers which provide one-stop education, training, and employment services."

Transition Centers have existed for many years and in a variety of contexts. The elements of effective transition centers are documented in the literature and roughly reflect the systems categories of (a) intake, (b) process, and (c) outcomes. Many educational institutions have modified the way in which programs are packaged and delivered based on (a) mandates for remedial and developmental services, (b) experience with continuing education, and (c) retraining the unemployed. For example, a highly trained person in a discipline who simply lost a job and may score poorly on a standardized test because of disuse of the subject, need not sit through an entire course. Conversely, a individual who never acquired basic skills, for whatever reason, may need customer-specific curriculum materials that are essentially affective domain and culturally sensitive (Simpson, 1993).

Meaningful retraining of the unemployed in the second category requires extraordinary effort. Mansfield, OH, responded to a crisis with "Project Care" in 1977-78 which yielded some know-how and an infrastructure. Another major crisis had been building by the elimination of 24,000 jobs by Firestone and Goodyear and the closing of Mohawk Rubber in 1978. Then, Mansfield Tire closed its doors. The Greater Mansfield Area Growth Corporation responded with "Project Care II." An integral response to the crisis was the collaboration between North Central Technical College, The Ohio State University Mansfield, Pioneer Joint Vocational School and Mansfield and Madison City Schools. However, "The intervention strategy was the result of a crisis as opposed to a process designed to diagnose a potential problem and prevent the development of the malady. The intervention occurred only after the crisis struck the final blow even though warning signals had been transmitted during the past several years" (Groff, 1981).

The critical issue is retraining for what type of jobs? Education must create broad based strategic planning processes which have some way of extrapolating technology into the future to anticipate its impact on life, society, and work. What will happen as the capacity of chips evolves from 586 to 686, to 786, and to 986? What will be the impact of voice activated technology? The humanitarian thing to do will also yield a better "Return on Investment," retrain and upgrade for meaningful employment.

Collaborative Planning

Choosing the Future (1993) consists of three broad objectives one of which is Modernize Operations (MO). MO Strategy 1 is to "Adopt collaborative planning and management processes at each college to assure continuous improvements in quality and efficiency."

Planning has evolved from PERT to PPBS to MBO and to strategic planning. Strategic planning consists of an audit of an institution's internal context and an assessment of an institution's external context for the purpose of creating visions of the future from which a preferred scenario is created for which a multiyear action plan is developed and to which resources are linked. Many institutions are probably doing a better job with internal variables. A few institutions are probably doing a better job with external variables. Eight professionals collaborated on a Mercer County Community College Strategic Planning Model (Bolge, Barchi, Benowitz, Coopersmith, Dowd, Kopcho, Meyer, Mennuti, 1991). The model met Total Quality Commitment criteria (Groff, 1992). A major applied research project yielded A Handbook on Strategic and Operational Planning for Chairpersons at Chabot College (Collins, 1993). Online versions of the documents could be produced for the system.

Intramural planning is necessary, but insufficient to meet today's intractable problems. Intermural strategic planning requires more sophisticated leadership competencies in both art and science. The Law Enforcement Administration Agency created planning district throughout the U.S. to try to reduce crime in the early 1970s. The 210 Health Systems Agencies attempted to plan for greater access to quality health care while containing costs in the late 1970s and early 1980s. The 252 Community Partnerships Demonstration Grants were funded in 1990 by the Center for Substance Abuse Prevention to deal with that problem. All projects required participation from a broad range of establishments and all have had limited success. Building communities will require that educational institutions play a lead role in planning.

Exemplary models of interestablishment collaboration are (a) The Lehigh Valley Business-Education Partnership and (b) Phoenix Think Tank in AZ. The Lehigh Valley Business-Education Partnership is committed to "Utilizing the Quality Process to Achieve Quality Education in the Lehigh Valley" (Donley, 1991). The Think Tank focus is on systemic change through communications, research, and innovations (see Attachments 45 a and b). Oregon Benchmarks (1992) is one of the best examples of applying that technique to the planning process (see Attachments 46 a and b).

Phoenix THINK TANK

Mission

The mission of the **Think Tank** is to use the collective thinking and resources of the elementary, high school, community college, university, city, business and community partners, to insure that Phoenix urban students enter, re-enter and remain in school until their maximum learning potential and goals are realized.

This mission statement, adopted in 1988, reflects the need for collective action for student success. Member institutions represent an education continuum from kindergarten through college and include the business and general community.

Members and Partners

Member institutions represent an education continuum:

Maricopa Community Colleges, Arizona State University, Phoenix Union High School District and the Creighton, Isaac, Phoenix, Osborn, Roosevelt, Murphy and Wilson Elementary Districts, as well as a coalition of community based organizations. A total of 79 K-12 schools are in this urban area.

Business, community and foundation partners are:

American Express, City of Phoenix, Digital Equipment, Dougherty Foundation, Ford Foundation/Networks, Kellogg Foundation/AACC, Motorola, Mott Foundation, Pew Charitable Trusts/AAHE, Salt River Project and Security Pacific Bank.

FOCUS: "SYSTEMIC CHANGE"

Key Directions

The 3 key directions to bring about *Systemic Change* are:

•*Communications* •*Research* •*Innovations*

The 9 key strategies of Think Tank are:

- To create an internal communication system and to establish communication with a wide variety of local, state, national and international communities;
- To continue and to expand existing at-risk programs and to create new programs consistent with the Think Tank mission;
- To collect data, research and to make sound, data-based decisions for solutions;
- To evaluate the success of Think Tank programs and process, and to make recommendations for improvement, continuation or other action;
- To promote staff development and to focus on cross-training needs and talents;
- To research and disseminate information on "Best Practices" in Phoenix education;
- To create forums and symposiums for sharing information, stimulating conversation, and provoking thought;
- To identify and develop resources to support the Think Tank mission and goal and
- To promote and address the challenges inherent in the urban environment.

Communication

Think Tank increases the awareness and cooperation of the community, and expands the visibility of school successes to include:

- Think Tank Coalition members
- Phoenix Metropolitan public
- Local and National resource network

Programs and Projects

The Think Tank has instigated programs that address student needs, from kindergarten through college. The coalition offers resources so that learners will graduate from high school and enter postsecondary education:

- Virtual Learning Environment
- Total Quality Learning
- Achieving a College Education (ACE)
- Alternative School Project
- Comprehensive Regional Center for Minorities (CRCM)
- Clearinghouse for Assessment and Referrals in Education (CARE)
- Staff Development Activities
- Urban Teacher Corps
- Parenting and Parent Literacy
- Project Diploma
- Student Monitoring and Alert System
- School-2-Parent

Systemic Change

The 5 major components targeted for educational change are:

- Attitudes and Behaviors
- Authority and Decision Making
- Curriculum & Instruction
- Assessment and Measurements
- Community Resources

Future Focus of Think Tank

The members of the consortium believe that the boundaries that separate levels of education should be removed. Students should be treated as though all can learn and they should have access to resources that will help them set - and achieve - their goals.

Future plans include more dialogue and training with teachers, principals and parents as well as student interaction. Other ventures are to expand collaboration to create a model urban education setting that will give educators and students new skills for success.

Contact

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Think Tank
Maricopa Community Colleges
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FAX #: (602) 731-8111

OREGON BENCHMARKS

Standards for Measuring Statewide Progress And Government Performance

Report to the 1993 Legislature

Oregon Progress Board

First Printing, December 1992
Second Printing, February 1993

Urgent Benchmarks

Children and families. A remarkable consensus has emerged in Oregon on the importance of addressing the needs of children and families. Education is part of the need, but there is much more. Family stability, prenatal care, early childhood health, child care, and early development are recognized as a critically important foundation to Oregon's goals for its people.

	1970	1980	1990	1992	1995	2000	2010
Early Childhood Development. Percentage of children entering kindergarten meeting specific development standards for their age							
a. Cognitive development							
b. Language and literacy development							
c. Physical well being							
d. Social/emotional development							
Percentage of children that kindergarten teachers feel are ready to succeed in school				68%	80%	95%	99%
Teen Pregnancy. Pregnancy rate per 1,000 females ages 10-17		24.7	19.6	19.3	9.8	8.0	8.0
a. African-Americans			48.7				8.0
b. American Indians			25.0				8.0
c. Asians			9.6				8.0
d. Hispanics			23.6				8.0
e. Whites			17.5				8.0
Drug-Free Babies. Percentage of infants whose mothers did not use:							
a. illicit drugs during pregnancy			89%		95%	99%	100%
b. alcohol during pregnancy (self-reported)			93%	95%	97%	99%	100%
c. tobacco during pregnancy (self-reported)			76%	79%	90%	95%	100%

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Drug-Free Teens: Percentage of teens:							
a. Free from involvement with alcohol in the previous month							
1. Eighth graders			77%	74%	92%	98%	99%
2. Eleventh graders			56%	63%	75%	85%	90%
b. Free from involvement with illicit drugs in the previous month							
1. Eighth graders			86%	89%	95%	99%	99%
2. Eleventh graders			77%	80%	85%	98%	99%
c. Free from involvement with tobacco in the previous month							
1. Eighth graders			87%	85%	95%	95%	99%
2. Eleventh graders			77%	81%	85%	95%	99%
Safe Child Care: Percentage of child care facilities which meet established basic standards			20%	23%	90%	100%	100%

Education and work force preparation reforms. Oregon has begun to put in place one of the most far-reaching education reform programs in the nation, with the explicit mission, expressed in *Oregon Shines*, of achieving measurably the best educated work force in the nation by the year 2000, and one equal to any in the world by 2010. Our goal is to develop a population with increasing percentages of highly educated, literate citizens who are capable of adapting to the challenges of a rapidly changing global economy. It is imperative that we implement the education reforms adopted by the Legislature and concentrate on raising standards for education at every level.

	1970	1980	1990	1992	1995	2000	2010
Educational Skill Levels Percentage of students who achieve established skill levels							
Fifth Grade							
a. Composite Reading and Math Skills				75%			99%
1. African-American				50%			99%
2. American Indian				57%			99%
3. Asian				73%			99%
4. Hispanic				53%			99%
5. Whites				78%			99%
b. Composite Writing Skills (not tested 1991-1992)							
Eleventh Grade							
a. Composite Reading and Math Skills				66%			99%
1. African-American				41%			99%
2. American Indian				50%			99%
3. Asian				60%			99%
4. Hispanic				48%			99%
5. White				69%			99%
b. Composite Writing Skills (not tested 1991-1992)							

Work force training. Work force training and retraining are extensions of the effort to produce a highly educated population. Oregon needs to provide opportunities for those not bound for four-year college to receive professional and technical education that leads to well-paying, productive jobs. Job retraining is also a critical priority, especially for dislocated workers.

	1970	1980	1990	1992	1995	2000	2010
Job Skill Preparation. Percentage of high school students with significant involvement in professional-technical education and entrepreneurial programs		7%	9%	9%	18%	35%	55%
Disabled Students. Percentage of disabled high school graduates moving to competitive or supported employment				5%	15%	50%	80%
Workforce Adaptability Percentage of displaced workers re-employed within 24 months and earning at least 90% of previous income							
a. All Workers							
b. Lumber and Wood Products Workers				36%	60%	70%	75%

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Technological Infrastructure

Modernize Operations Strategy 2 is to "Develop a pervasive **technological infrastructure** at and between colleges to equip them to increase productivity, enhance management efficiency, and become premier institutions for the **application of technology to learning.**" Actions are:

Action 1. **Initiate an Institute for Technology and Distance Education.** The colleges should establish a new system-level Institute for Technology and Distance Education (INTECH) to be the focal point for increasing the system's technology capacity.

Action 2. **Dramatically Expand Distance Education.** The colleges should capitalize on their current capabilities in order to provide distance education to a much larger proportion of their students.

Action 3. **Invest Now in Advanced Instructional Technology and Faculty Development.** Working through INTECH, the colleges should invest now in proven advanced technologies and in faculty development programs designed to help faculty acquire technological skills.

ENDS & MEANS: Technology for Commerce and Society

People are surrounded with technologies, undreamed of a generation ago, which make it possible to transmit data, voice, and video instantaneously almost anywhere in the world and simultaneously in several different languages. Business and the military use contemporary technology to gain competitive advantage, expand market share, increase productivity, improve efficiency and effectiveness, obtain a greater return on investment (ROI) and to preserve the peace and to wage war successfully. Internet was born about 20 years ago as the U.S. Department of Defense network ARPnet. Although these technologies are becoming commonplace in business and are sometimes available to children in homes, they remain largely unused in traditional education.

Global commerce is providing the impetus for the use of contemporary communication and information technologies in the delivery of education and training. Asea Brown Boveri (ABB) is the world's largest electrical engineering group and is renowned for its research, product development, low cost manufacturing, and the transfer of technology and know-how. ABB is a **highly decentralized** organization with business units distributed in **140 countries**, employing over **200,000 people**, with a net sales in excess of $30 billion U.S. (Telegate, 1993). ABB Corporate Network, ABB-CN, is used to communicate accurately and quickly through the concept of open communications which uses many types of transmittal media: data, text/fax, voice or image video. ABB-CN has been developed to provide various types of communications capabilities around the world for the exchange of drawings, proposals, and technical information.

In Finland, ABB operates via a nationwide conglomerate of independent companies, ABB Group Oy, divided into more than 40 operating locations dispersed around the country with the head offices in Helsinki (see Attachment 47). ABB Group Oy makes use of the latest communications technologies including Telecom Finland's full service concept known as Telegate. On May 3, 1993, Telecom Finland announced the world's first commercial ATM which initially connects Helsinki with Tampere, 200 km to the north (Heinanen, 1993). ATM is a **fast packet switching technique** to transmit data efficiently in short, fixed size cells of knowledge at very high rates. Thus, Finland was the first country in the world to implement an ATM **distributed multimedia** communication network for the transmission of data, voice, and video simultaneously at speeds 1,000 times greater than had been possible prior to that date. The pilot lasted one year, during which it evolved into full production of this strategically important **new backbone technology**.

Telecom Finland is helping in numerous projects using mobile technology (Mobile, 1993). In cooperation with the **National Research Centre for Welfare and Health,** four communities volunteered to apply mobile communications to areas of **health and welfare beginning in 1987.** Ulvila, in western Finland, wanted to focus on the **day care of children to improve the cooperation between parents,** kindergarten, and community personnel. The results have been impressive. Beyond the clear savings in expenditure, the results have yielded (a) changes from a hierarchial structure of work to horizontal interactive networking; (b) changes in self confidence, communication skills, motivation to improve skills, and new possibilities to work better; and (c) creative meetings between producers and providers of health and social services. The producers had not envisioned all the possible applications of the new mobile communication technology and the social workers had not imagined all the possible application of the technology -- solutions to problems. Consumers and providers who use contemporary communication and information technologies are more likely to continue to use such systems in whatever role they perform -- care giver, educator, or health services provider. Judith Hatula (1994) is analyzing the research on neurological programming and what other telecom industry providers have done in HRD for the purpose of "Creation of a Human Resources Development Program to Affect Changes in Attitudes of Telecommunications Personnel to Improve Customer Service" at Telecom Finland.

The information explosion has gathered force over the past 40 years. Creating "intelligence" via computer and dissemination by communications and information technologies is the classic tool for creating wealth (Wriston, 1992).

ASEA BROWN BOVERI

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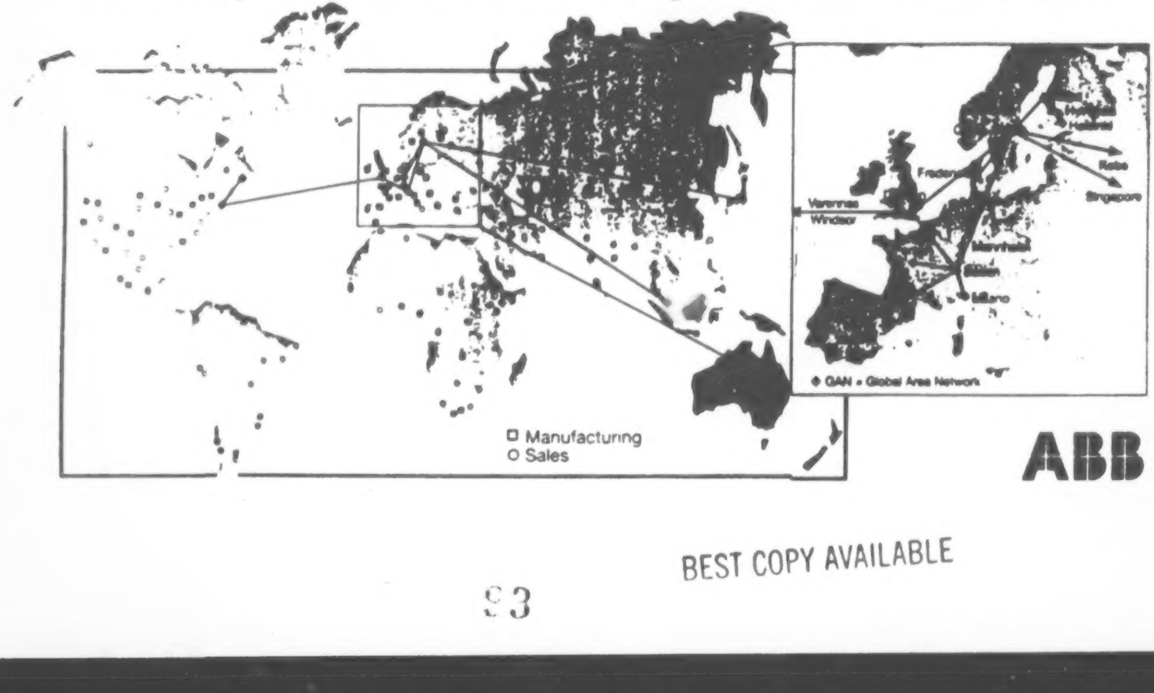
140 COUNTRIES
200,000 PEOPLE
$30 BILLION U.S.

ABB Corporate Network and Major Locations Worldwide



ABB

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ENDS & MEANS of Technology to Enhance Learning

Global learning communities have been evolving rapidly for the past several decades as can be seen in the increase in partnerships between **multi-national** private sector group alliances and in the **distance education** movement. Contemporary communication and information technologies hold the potential for (a) re-engineering traditional education and (b) creating entirely new info era learning communities.

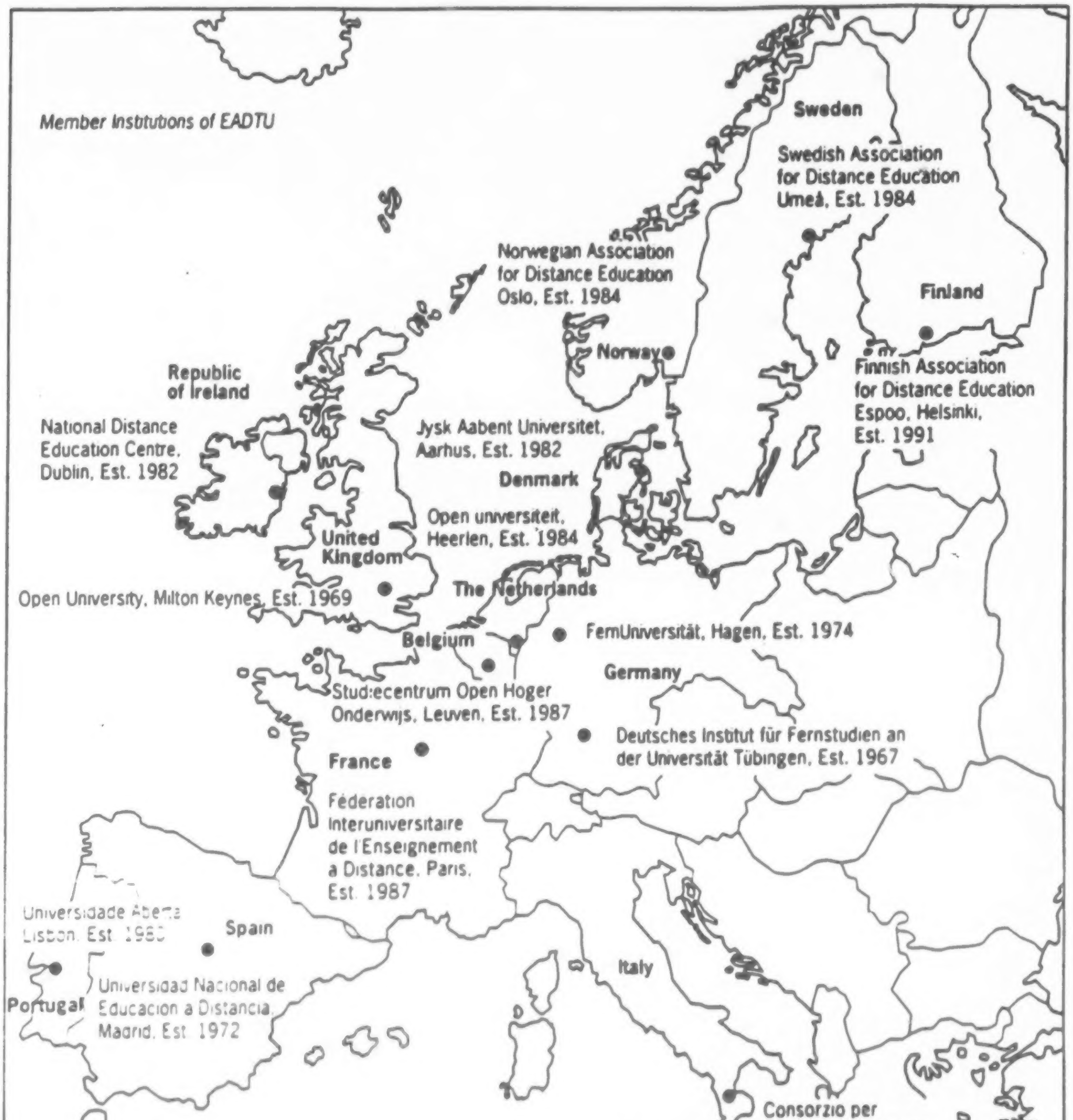
The European Association of Distance Teaching Universities (EADTU) was established in 1987 by the principals of major distance teaching institutions to foster cooperation between organizations dedicated to higher education through distance teaching methodology (see Attachment 48). Activities and projects include (a) communications and information exchange, (b) collaboration in course and credit transfer and joint production, and (c) development of new media methods and technology.

> Collectively, members occupy a strategic position in Europe at the interface between the labour market and the educational system. Through coordinated cooperation EADTU, as a network, is instrumental in bridging the gap between the demand for the supply of educational facilities, eg. transfer of courses from one country to another. In 1989 EADTU published a report 'Toward a European Open University.' On the basis of this report EADTU is now committed to collaborative activities to establish the infrastructure for the European Open University Network (EADTU, 1992).

The infrastructure is yielding learning communities within and between the 12 European Countries (Bates, 1989).

Pacific Rim countries are also implementing distance education. The Southeast Asian Ministers of Education Organization (SEAMEO) the project "A Scenario for Education in Southeast Asia in the Year 2015." Building Scenarios for Education in Southeast Asia: The SEAMEO INNOTECH Experience has identified distance education as a major thrust in the immediate future (Habana, 1993).

Niann Chung Tsai (1993) developed a strategic plan for alternative education at the World College of Journalism and Communication (WCOJC) in Taipei, Taiwan. The strategic plan identified the Telecommunications program as the first to be converted to a non-traditional format, a program that is both "ends" and "means" for communications infrastructure. Open University in Taiwan provides alternative education in that nation. WCOJC's strategic plan has been approved by the Ministry of Education. WCOJC has begun implementation.



Member Institutions of EADTU

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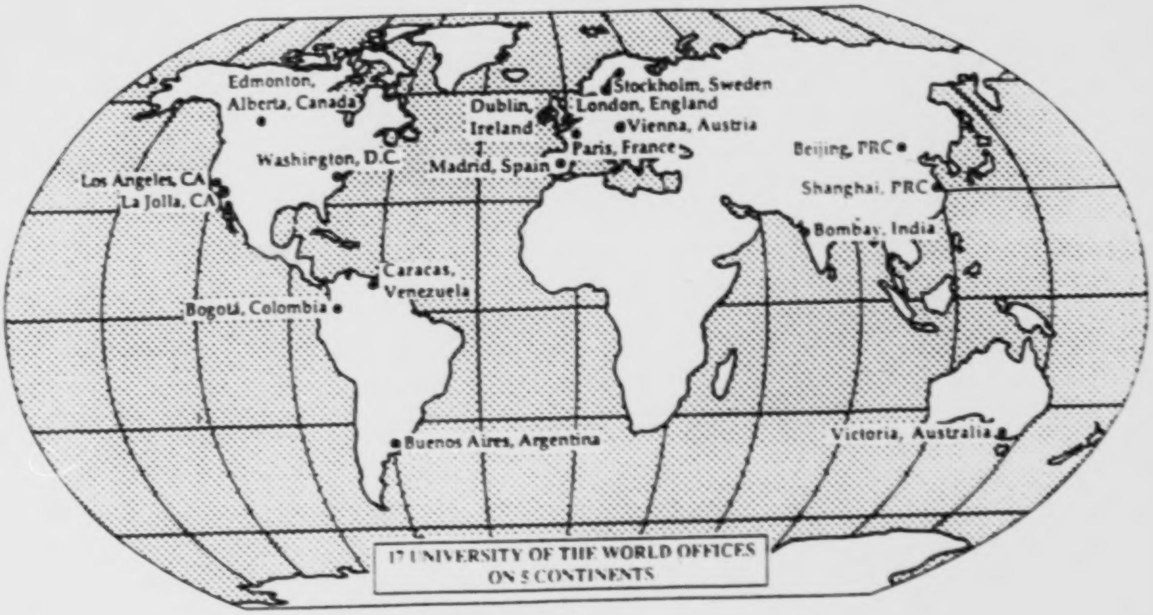
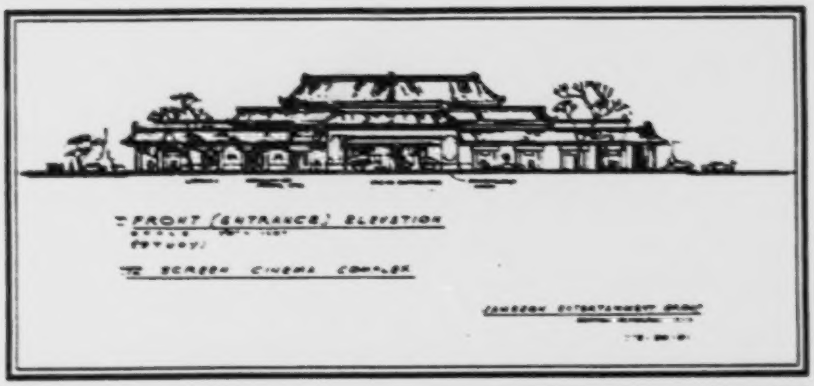
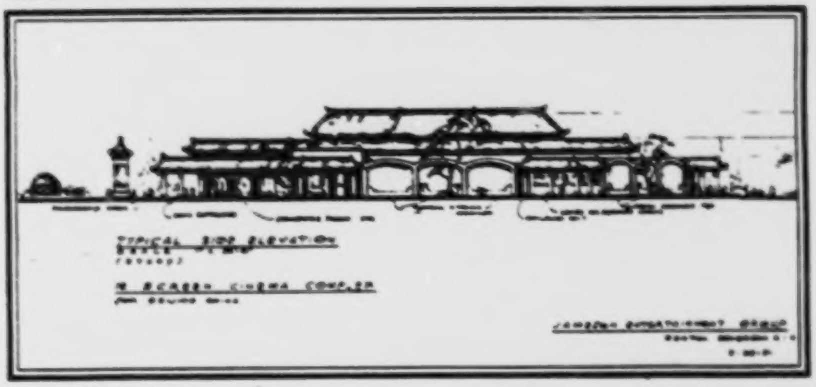
The University of the World, with a central office in La Jolla, CA, has been a major coordinator of distance education. UW announced in July 1993 the establishment of a worldwide Clearinghouse for distance education courses. Course information can be obtained by an e-mail request to the Internet address UNIVWORLD@UCSD.EDU (Newsletter, 1993). Some of the courses listed in the Clearinghouse are offered by the National Technological University, Fort Collins, CO.

In July 1992, UW and Jameson Entertainment Group (JEG) announced plans for 50 entertainment and educational complexes in the People's Republic of China (Newsletter, 1992). Four of these large entertainment and educational complexes are slated for Beijing, with UW providing local and distance education programming and other services in at least one of them. The ground floor will have twelve 185 seat theatres, in groups of three on each side of the building. The second floor is expected to be dedicated to educational needs, including classrooms, computer rooms, and a multimedia center (see Attachment 49). JEG plans to build entertainment/educational complexes on every continent of the world. It is possible that UW will have offices in each country which has such complexes. UW could become the largest single provider of alternative distance education from outside the country in which services are provided.

ATM technology makes it possible to have people in various locations throughout the world interacting in real time. The essential issues relate to purpose -- ENDS. **People use technology** to achieve better quality of life, enhance learning, improve institutional efficiency and effectiveness, etc. Helping to modernize NCTC with contemporary technology, chairing a High Tech Task Force for the Ohio Board of Regents (OBR), and serving on the OBR Telecommunications Committee was an "Intro to the Early Technical Era 101." Chairing the Plan Development Committee of an eight county Health Systems Agency, Chairing a School District Reorganization Committee, and presiding over the Penn State College of Education Alumni Board during periods of retrenchment was "Intro to Rethinking for Restructuring 102." Multi-year experiences 101 and 102 were necessary, but inadequate, to raise the level of understanding about what a professional HRD program developer would need to do to (a) help redesign a doctoral program to produce High Performance Learner Leaders and (b) pilot test and then transform the didactic program to a multi-tech format with some "lessons" online and to deliver the new program with **warranty**. Providers of services should be active participants in **co-creating the vision with strategic directions related to ENDS** as a prelude to developing the specifications for the technology. What are the **habits of heart and mind** that policy makers and education service providers must develop for **RETHINKING, RESTRUCTURING, and REVITALIZING** to create **21st Century LEARNING COMMUNITIES**?







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Anatomy of the System

The anatomy of the system is critical. California Community Colleges (CCC) could be compared with "Big Blue" in many ways. CCC has led the world in raising awareness about Pacific Rim countries and in telecommunications. Several "Telecourse" institutions are members of the League of Innovation. The creative and pioneering mindset coupled with the critical mass of expanding economic resources yielded a mosaic of responsive institutions. However, just as the shift from autonomy to system can impede flexibility due to regulation, being encumbered and inundated with the dynamic forces of fewer resources tends to cognitively exhaust creative thinking. That happened in all states that have experienced structural economic restructuring. Ample research evidence exists about dimensions of organization health (see Attachment 50). A system can use the dimensions of excellence for schools and colleges as a profile for evaluating an institution of system (Roueche and Baker, 1986 and 1987). Program review is absolutely necessary with emphasis on synchronization with the external environment (Satterlee, 1991), interestablishment collaborative planning (Dowd, 1992), communication and information technology competencies (Cupples, 1993; Schultz, 1994), career mobility (Ragsdale, 1994), client specific curricula (Simpson-Ussery, 1993), in a distance education format (Conklin, 1993).

The critical factor is HRD. Humans determine the curriculum, even if the package is produced by a vendor. Humans determine the appropriate mix of learning activities that will constitute the curriculum (a) content formats, (b) delivery formats, and (c) student learning outcomes evaluation formats. Teachers tend to (a) teach what they know or were taught, (b) teach the way in which they were taught and (c) evaluate the way in which they were "tested" or the way that is efficient.

A first step is to analyze policy and practice to determine the extent to which humans are encouraged to pursue creativity, flexibility, innovation, and quality and the extent to performance appraisal and reward structures like contract renewal, promotion, tenure and other sanctions promote inventing a more effective organization. For example, a promotion policy could encourage developing a learning enhancement software program, electronic publishing or creating a local area network. Additional weight can be assigned to activities and projects that match strategic directions of the institution and goals for the department. After North Central Technical College specified the strategic direction of knowledge of information processing, it specified student learning outcomes for computer literacy (see Attachment 51). The competencies became the framework for specific program development and HRD. What are the student learning outcomes relative to major categories of

DIMENSIONS OF ORGANIZATIONAL HEALTH

OPEN COMMUNICATIONS

EMPLOYEE INVOLVEMENT

LEARNING AND RENEWAL

VALUED DIVERSITY

INSTITUTIONAL FAIRNESS

EQUITABLE REWARDS AND RECOGNITION

COMMON ECONOMIC SECURITY

PEOPLE-CENTERED TECHNOLOGY

HEALTH-ENHANCING WORK ENVIRONMENTS

MEANINGFUL WORK

FAMILY/WORK/LIFE BALANCE

COMMUNITY RESPONSIBILITY

ENVIRONMENTAL PROTECTION

Healthy Companies, 1420 16th St., N.W., Washington, D.C. 20034

ELEMENTS OF THE STRATEGIC GOAL OF COMPUTER LITERACY

1979

- Systems Analysis and Design
- Language Proficiency
  - Data Processing
  - Engineering
- Application
  - Computer Aided Design (CAD)
  - Computer Aided Manufacturing (CAM)
  - Inventory Control
  - Statistical Quality Control
- Conducting Longitudinal Studies of Student Progress
- Computer Assisted/Managed Instruction
  - Writing a Program
  - Using a Program
- Use of Optical Mark Sensing Equipment
  - Upgrading Student Data Base
  - Test Grading
- Use of Word Processing Equipment as Input
- Reading a Printout

occupations and specific jobs? What curriculum formats and alternative education delivery formats are possible, or most likely to produce a higher quality product? What techniques can be used for total quality product line development of a world class learner-worker in graphic communication?

NCTC had an Industrial Management program which was revitalized by asking employers about their needs. The program was divided into five certificate of from three to five courses. One three course certificate dealt with communications skills including technical report writing, a second certificate dealth with "behavior" of organizations. Three certificates were for difference aspects of management and had varying elective and required courses. Courses were offered on campus and in a customized format at firms.

Attempts have been made by various establishments and national organizations to anticipate the future by (a) analysis of the past and present and (b) extrapolation strategies to clarify fuzzy images of a preferred scenario. As suggested throughout this document, visions creation and co-creation processes must be implemented periodically. Skill Dynamics, an IBM Company, published in 1993 an internal document entitled "A Vision of IBM Human Resources Performance in the Year 2000" (Charp, 1994). Significant implications for education and training are as follows:

1. Education planning will be done by skill rather than by job;
2. Instruction will be provided in modules rather than in courses;
3. Courseware development will be automated via expert systems;
4. Testing will be embedded and continuous rather than being an explicit event;
5. Modules will be multisensory, accommodating various learning styles;
6. Networks will provide access to worldwide libraries of instructional modules rather than limiting an employee to local catalogs;
7. Education will be truly distributed rather than under the control of someone other than the learner; and
8. Employees can initiate necessary education experiences themselves.

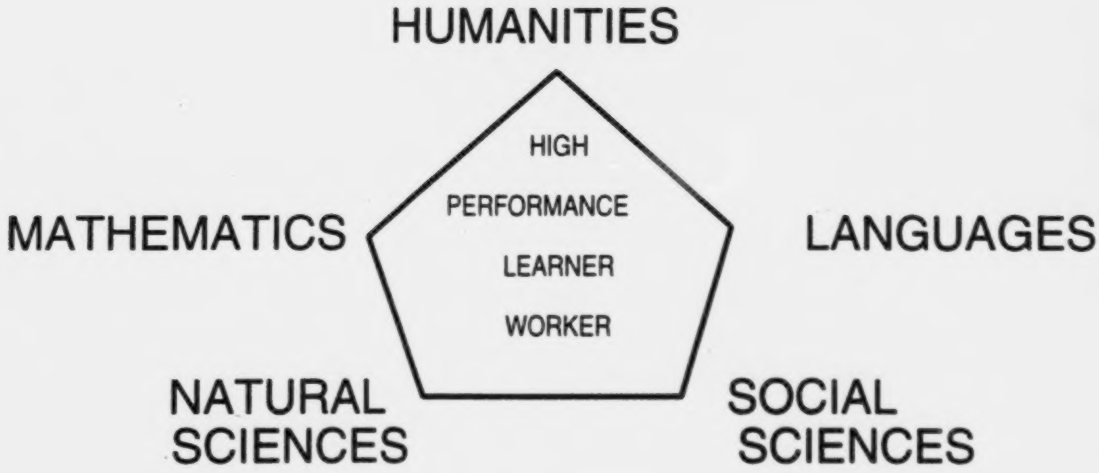
These dimensions of organization health for education and training can be used to analyze the disciplines (humanities, languages, mathematics, natural sciences, and social sciences) and determine curriculum content formats, delivery formats, and evaluation formats (see Attachment 52).

Open entry/open exit formats will require comprehensive learning centers for students. Instructional development centers will be required to assist faculty to change from didactic lectures to instructional packages. Computer based distance education will require multi-media capability.

A Vision of IBM Human Resources
Performance in the year 2000

NOW	The Year 2000
Plan by jobs	Plan by skill
Courses	Instruction modules
Traditional ISD	Automated development
Explicit evaluation	Embedded measurement
Culture dependent	Automatic translation
Limited media	Multisensory
Local catalogs	Worldwide libraries
Centralized	Distributed
Management-initiated	Employee-initiated

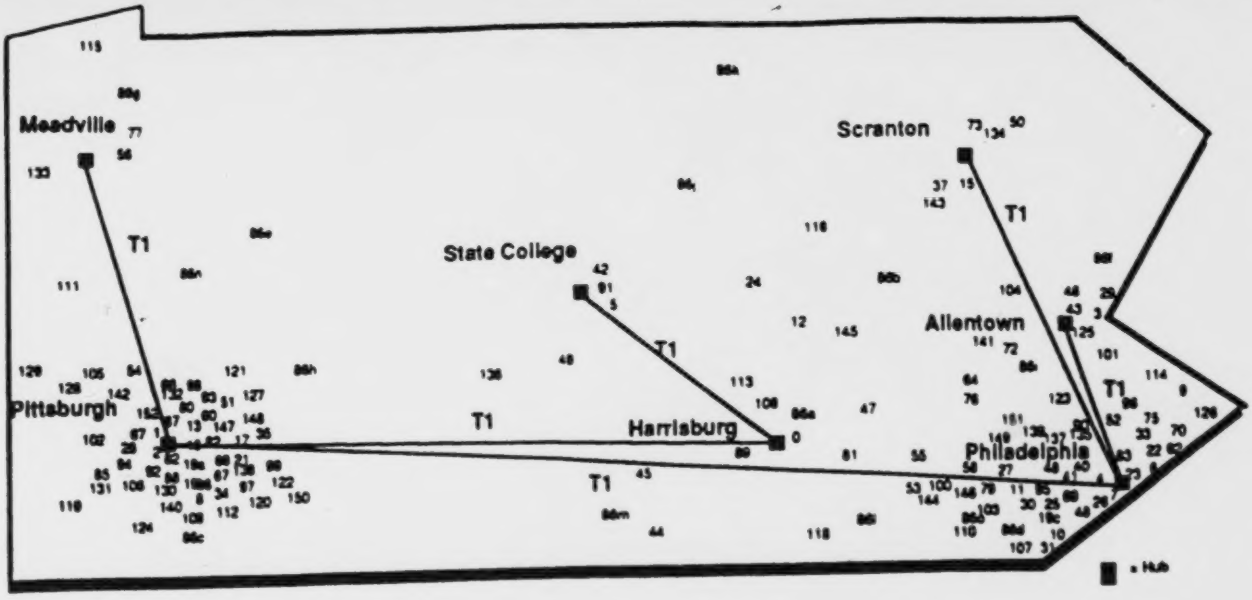
SHAPES OF KNOWLEDGE

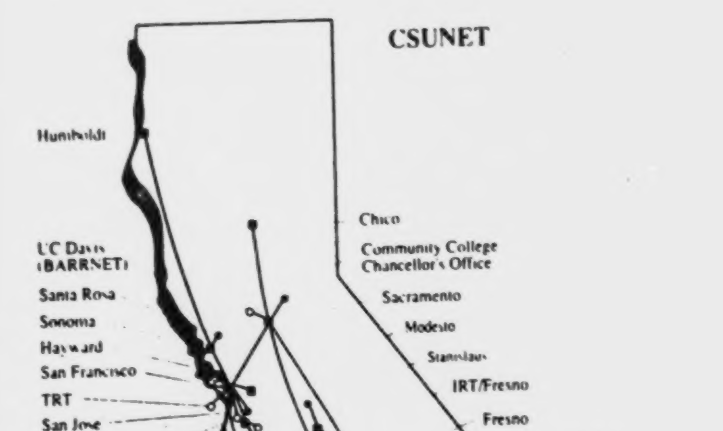


Change, March/April 1994, Vol.36, No.2, pp. 27-30

Communication and information technologies are the tools of the information era. Raising level of awareness of databases and networks is essential. To produce a High Performance Learner and Worker for the **communication** focus in a **technology eduction concentration**, what are the inputs, process, and outputs that should be considered in the program conceptual framework and then transformed into Certificates of Initial Mastery (CIM) and Certificates of Advanced Mastery (CAM) as suggested in Attachments 41 & 42? How does encoding, transmitting, receiving, storing, retrieving, decoding, and feedback occur in Chinese and American cultures? How are these process competencies embedded in Chinese and English languages and technology and what neurolinguistic programming occurs in formal and informal learning? What is the communication and information infrastructure, including libraries, in CA, PA, and Taiwan? How can professional educators collaborate in these three areas to go beyond outcomes-based education within traditional education to invent solution-based education in, let us say graphic communications? Health and environment are major problems. CA, NJ, & PA are major centers for bio-related corporations. What can be done with the above list of questions for a **bio-related concentration in technology education** (see Attachment 53)?

Programs can be developed and released time must be granted for explorers who want to be the nintendo service providers in education and training. The training program could include **Highway Construction 101** in the fall, **Net Repair 102** in the winter, and **Global Messages 103** in the spring. Service providers in several countries could be interacting electronically within a year. **Highway Construction 101** could include advances in research and development, impact of science and technology, and implications for human resources development. For example, educators could raise their level of awareness about cellular, digital, and continuous voice activated technology. Program developers should be aware of the impact of these technologies on workplaces and be better prepared to anticipate the implications for HRD. **Net Repair 102** could include Internet networks, NSFNET supercomputers, and online and satellite systems. **Global Messages 103** could include "Learning Communities of the Future," cultural diversity: people and societies in an effort to more fully understand the mind and technology interface in other countries, and electronic publishing and systems such as "Primis" by McGraw-Hill, Inc. Learning to motor on electronic superhighways is difficult when they don't have all the customary filling stations and rest stops, off ramps and on ramps, are filled with potholes and maps are nonexistent to reach the destinations of cyberspace and virtual reality (see Attachment 54 for Nova-Links).





10/91

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NOVA-LINKS INTERNET ACCESS

mmunix
i   Internet Menu
2   Internet Tools
4   Nova Links

* * * * * * * * * *

NOVA-LINKS INTERNET ACCESS

INTRODUCTION

- About Nova-Links
- New Feature

INTERNET

- **Internet Resources**
- Fun and Games
- Guides and Tutorials
- News and Weather
- Library Resources
- Reference Shelf
- Miscellaneous

UTILITIES

- Search Nova-Links by Topic
- Usage Report

* * * * * * * * * *

INTERNET RESOURCES

SERVICES

- Gopher Holes
- **Hytelnet (Resources via Telnet)**
- Listserves (E-mail Discussion Groups)
- Software Libraries and FTP Sites
- World Wide Web

SEARCHING

- Finding People on the Internet
- Finding Topics on the Internet

TOPICAL

- Diversity
- Education
- Employment
- Federal Government
- Grants and Funding
- Health

```
                  INTERNET RESOURCES VIA TELNET
                          HYTELNET 6.6

Hytelnet is designed to help you in reaching all of the
Internet accessible libraries, Freenets, CWISs, Library BBS,
& other inforamtion sites by Telnet.

THE DATA
   * Library Catalogs
   * Other Resources

HELP FILES
   * Help files for library catalogs
   * Library catalog interfaces
   * Internet Glossery
   * Telenet tips
   * Telnet/TM 3278 escape keys

     *     *     *     *     *     *     *     *     *     *

On-Line Library Catalogs
The Americas
Europe/Scandinavia
Asia/Pacific/South Africa

     *     *     *     *     *     *     *     *     *     *

Austrilia
Hong Kong
New Zealand
Singapore
South Africa
Taiwan
Thailand

     *     *     *     *     *     *     *     *     *     *

Taiwan

Academia Sinica
Ministry of Education, Taiwan
National Central Library
National Chiao Tung University
National Kaoshiung Normal University
National Ping-Tung Teachers College
National Sun Yat-Sen University
National Taiwan University
National Tsing Hua University
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Continuous Quality Improvement

Several major sources of information about the quality movement include corporations that have used Statistical Process Control and Statistical Quality Control, the Federal Quality Institute, Arthur D. Little, The IBM - TQM Partnership With Colleges and Universities (1993), National Quality Academy and Noel Levitz Centers, and the Total Quality Institute. An Arthur D. Little study reported in an article entitled "Beyond the Quality Revolution: Linking Quality to Corporate Strategy" concluded that companies continue to embrace quality programs but TQM has generated more enthusiasm than results (Erickson, 1991). Dr. Nayak, a senior vice president said "...we've seen companies like Cadillac and Wallace win Baldrige awards and then report substantial loses in their earnings statement."

A synthesis of the literature about the quality efforts indicates several essential points: (a) a clear mission and vision are essential, (b) the vision must be transformed into a multiyear action plan, (c) the action plan must have outcomes or benchmarks, and (d) resources must be linked to goals and objectives.

Continuous quality improvement (CQI) is a HRD technique which is an extension of the strategic plan with both content and process dimensions. When the U.S. entered World War II, it was decided what had to be done in partnership to wage war and do it successfully. Establishments were independent variables that made modifications to achieve that goal. Education created new degree programs to produce the health care providers needed for the war. A similar effort was launched when the U.S. decided to conquer space. New habits of **mind and heart** were required. Does the U.S. have the critical mass of intellectual capital, the Frank Lloyd Wright's, to dream 21st Century Learning Communities based on research in the cognitive sciences and technology and then to transform the dreams into multiyear action plans with benchmarked goals and objectives (aee Attachment 55)?

The conversion of **mind** and **system** from industrial era batch processing to more customized and responsive forms of education and training in computer based nontraditional alternative education formats. If that transition is to be made successfully, it will be necessary to raise the level of awareness about the family of continuous quality improvement techniques and customize a strategy for each establishment unique to its own culture. The diversity of continuous quality techniques is almost endless. Doctoral students who researched total quality and applied concepts to their work context include Gracia, 1992; Lauria; 1994; Moody, 1994; Shultz, 1992; and Zigler, 1992, in ED 351 499. Ronald Carney is working on "Development and Implementation of a Total Quality Manual for Thomas Technical Institute."

TOTAL QUALITY

- COMMITMENT
- LEARNING
- INVOLVEMENT
- IMPROVEMENT
- EDUCATION
- MANAGEMENT
- CONTROL

TOTAL QUALITY COMMITMENT

CONTINUOUS IMPROVEMENT OF QUALITY

CENTRAL FOCUS ON THE CONSUMER

SYSTEMATIC IMPROVEMENT OF OPERATIONS

OPEN WORK ENVIRONMENTS - ATMOSPHERE

LONG-TERM THINKING

HUMAN RESOURCES DEVELOPMENT

COORDINATION AND LEADERSHIP

Robbie Lee Needham. "Total Quality Management: An Overview." *Leadership Abstracts*. Laguna Hills, CA: League of Innovation, Vol. 4, no. 10, July 1991.

The Pacific Century

The Pacific Rim contains some of the oldest cultures in the world. They have made many contributions to the well-being of other nations. For example, the Chinese invented printing. Taiwan, Republic of China, has demonstrated something that is unparalleled in the history of the world, an "economic miracle" that came about primarily through the Sino-American Mutual Defense Treaty signed in 1955 and the **Industrial Vocational Education Cooperative Project** which restructured curriculum and renewed teaching-learning in the industrial vocational high schools of the R.O.C.(Groff, 1992). One indicator of the success of the partnership is the increase in per capita income. "In 1951, the average per capita income in Taiwan was only about 100 U.S. dollars, and it was about 450 U.S. dollars in 1965. However, in 1990 it had gone up to about 8,000 U.S. dollars" (Chang, 1991). The restructured curriculum and focus on teaching-learning attracted 70% of the senior high school students into the industrial vocational education system (Chang, 1991). This demonstration of an **effective partnership** built on technology transfer yielded a win-win situation for Taiwan and the United States. It is possible to replicate the partnership with Taiwan to create a next generation full service learning models as well as join together with other nations and create "**Pacific Rim Learning Communities?**"

The Six-Year National Development Plan for Taiwan, Republic of China (1991-1996) will be followed by another multiyear plan with new macroeconomic development targets. The plan will undoubtedly continue many of the same themes in the current plan. The U.S. has reaffirmed its intention to continue the Sino-American Mutual Defense Treaty which may influence the shaping of some targets. The marcoeconomic development targets will be converted into specific projects by the National Science Council of the Executive Yuan like the Hsinchu Science-based Industrial Park (HSIP)(see Attachment 56) or the National Science and Technology Museum with its planned 18 permanent exhibits (see Appendix B 3). Many of these projects are promoted through the USA-ROC Economic Council at the annual conference. The plan could include entirely new projects and joint ventures in education. All projects require HRD.

A great deal of Taiwan's success is attributable to the **Industrial Vocational Education Cooperative Project.** As indicated earlier, all countries belong to the Organization for Economic Co-operation and Development (OECD) are looking for way to produce High Performance Learner Workers for the emerging advanced technical era. Taiwan began to analyze The Development of Vocational Industrial Education in the Republic of China, Taiwan (Sheu, 1985) and then critically evaluated vocational education in several industrial nations through visits and conferences. Taiwan has (a) increased

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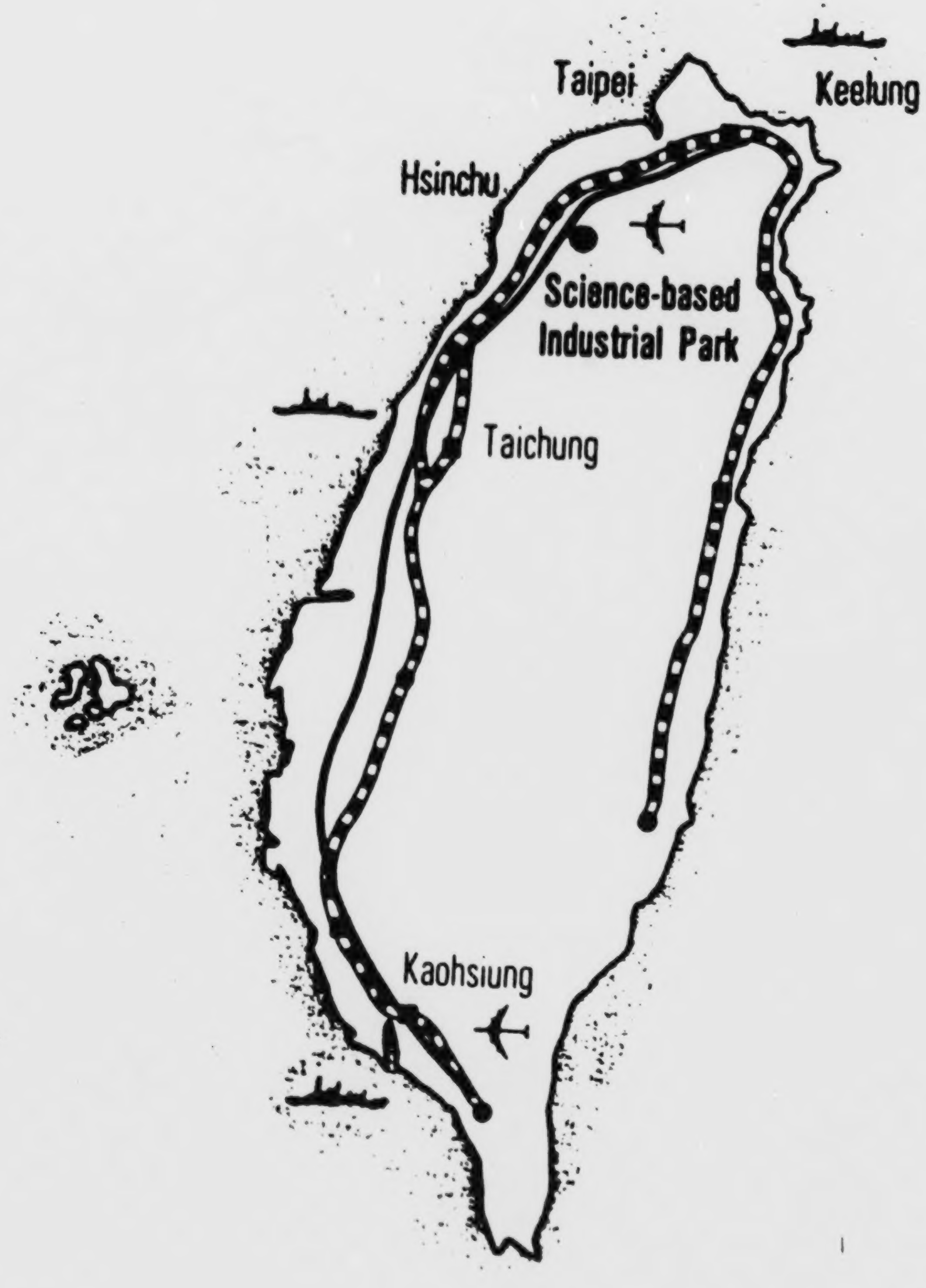

Taipei
Keelung
Hsinchu
Science-based Industrial Park
Taichung
Kaohsiung

the compuslory years of education, (b) implemented technology education, and (c) started to adopt alternative nontraditional education. Why not a joint venture on "Total Quality Product Line Planning, Management, and Evaluation" of multicultural specialists in graphic communications with Certificates of Initial Mastery and Advanced Mastery in an Associate Degree Tech Prep format (see Attachment 57)?

"A Sino-American Partnership For An Advanced Technical Era" could be created for moving "Toward the 21st Century Learning Communities of the Future" (Groff, 1992). A Think Tank Team (TTT) comprised of representatives from Taiwan and the U.S. could create a vision by thinking strategically about life and work in the 21 Century around the Pacific Rim and specifically in Taiwan and the U.S. (see Attachment 58). The TTT could read information and then tour Taiwan and the U.S. for briefings and to see the infrastructure. The TTT could hold a visions co-creation meeting at the **East-West Center in Hawaii** to become more familiar with its resources. The co-creation and preferred scenario process could be conducted through ATM technology (see Attachment 59). The preferred scenario would be transformed into a multiyear action plan (see Attachment 60). The action plan goals categories could consist of items listed below.

	Year 1	Year 2	Year 3	Year 4	Year 5
(a) Policy					
(b) Human resources development					
(c) Curriculum: content and process					
(d) Technology for technology ed.					
(e) Instructional technology					
(f) Facilities: existing and new					

Imagine a Sino-American partnership to promote cultural understanding and peace throughout the world via graphic communications. From a **policy** perspective, what would need to be done for such an effort? From a **HRD** perspective, what preservice and inservice training programs should be offered for policy makers, leaders, and teachers? From a **curriculum** perspective, what is the **content** that would go into a communications technology education program at various level from elementary through graduate education to produce a High Performance Learner Worker? How would the content be **formatted** in a (a) **vertical articulated** sequence of learning experiences and (b) in a **horizontal integrated** fashion and linked to other disciplines? What is the balance in content between preparation in **desktop electronic publishing** vs

TOTAL QUALITY PRODUCT LINE PME

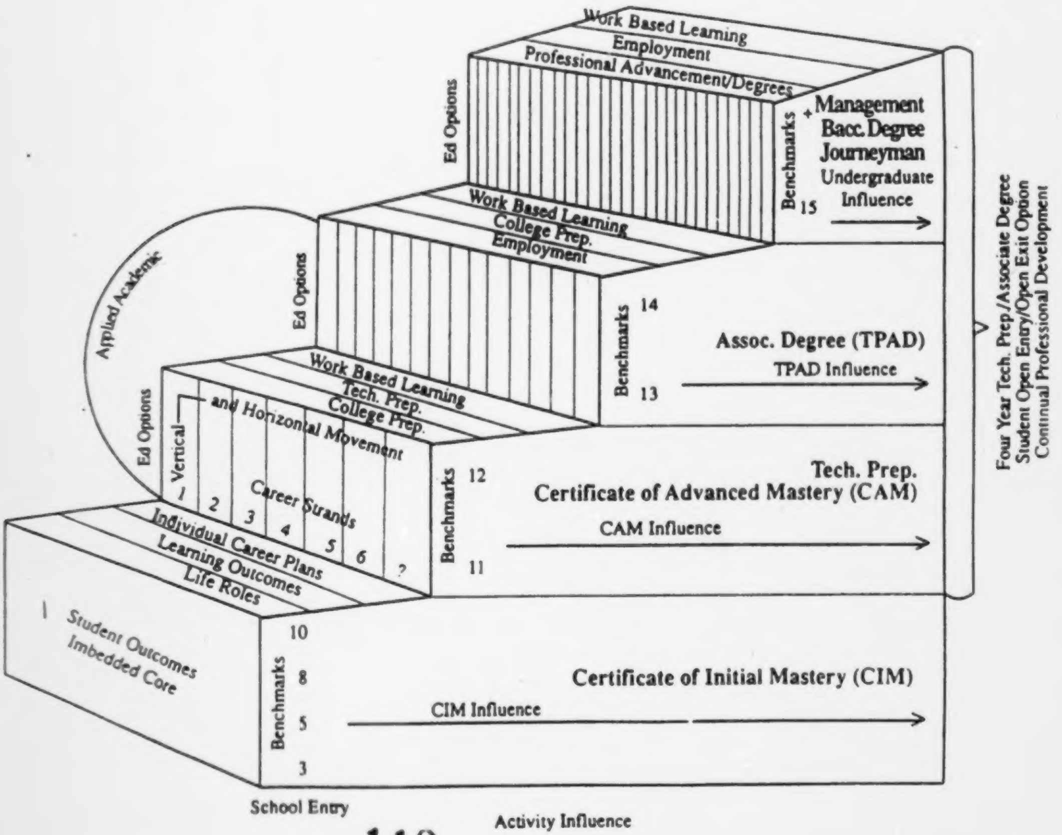
From:

READINESS TO LEARN

To:

OUTCOMES: COMPETENCE WITH WARRANTY

1/2/92



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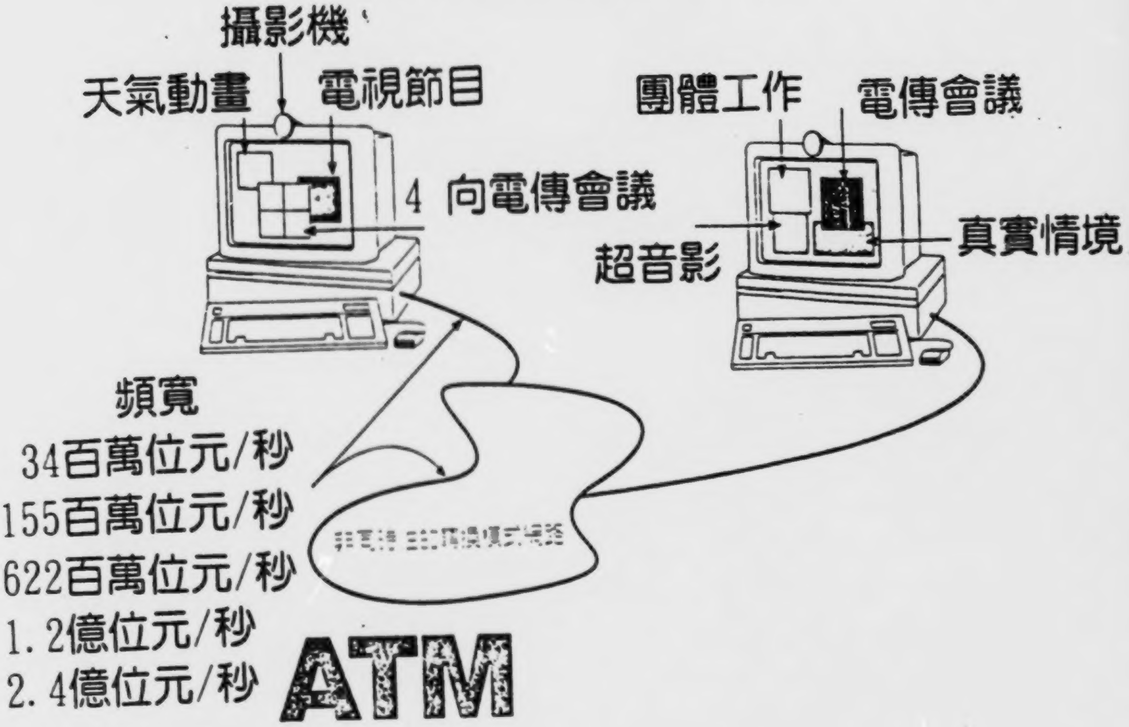
21世紀的思考性策略

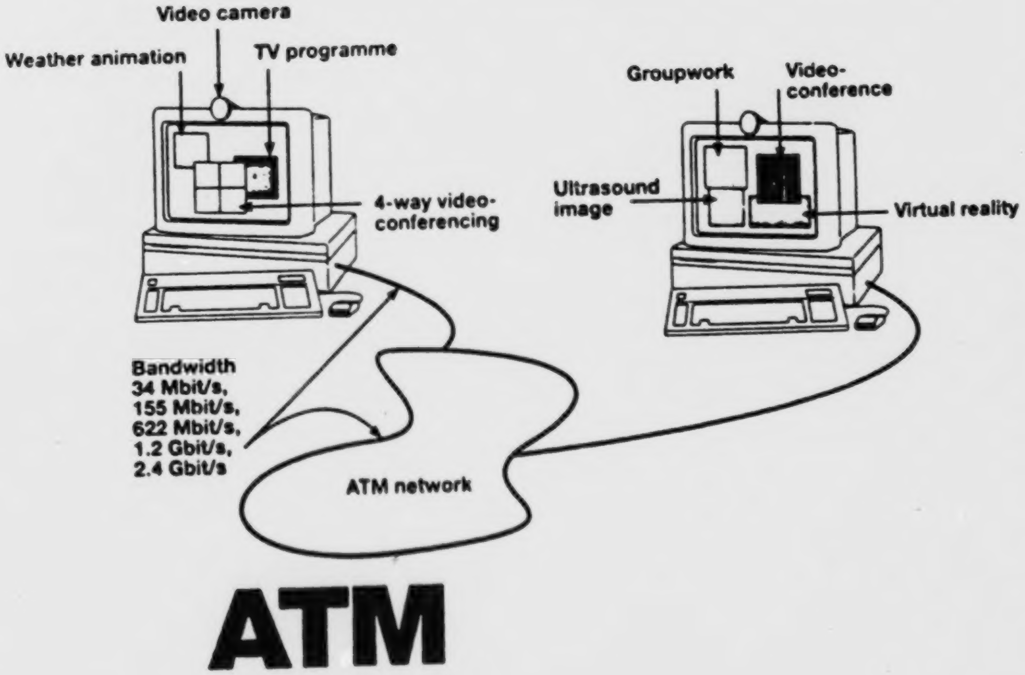
VISION:

THINKING STRATEGICALLY ABOUT THE 21st CENTURY

寬頻應用環境



BROADBAND APPLICATION ENVIRONMENT



ATM

多年計畫

	1 年級	2 年級	3 年級	4 年級	5 年級

MULTI-YEAR PLAN

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5

traditional methods of **prepress, press, and postpress**? How can curriculum planners create an articulated system of certificates and degrees with competency benchmarks that are solution based with an appropriate performance appraisal system? How can leaders shift from bureaucratic, layered, traditional schools and colleges to entirely new organizational structures like Community Learning Centers based on open entry/open exit concepts? Technologically, it is possible to anticipate that in the near future our countries will have ATMs with continuous voice activated language conversion software on a PC using cellular communications to access databases through local area networks. What are the specifications of the technological infrastructure standards to effectively communicate among nations and how can existing facilities be retrofitted.

Taiwan and the U.S. can prepare unilaterally for the future or they can do it in concert with each other and with other countries. The discussion focused on **ENDS** related to improved quality of life through graphic communications and a proactive approach to planning for restructuring education by focusing on learning. The bio-related information network of CA, NJ, PA, and other states could deliver health promotion strategies throughout the world. "Learning to Learn" is more than merely adjusting or reacting to circumstances. "Learning to Learn" is a conscious deliberate attempt to create/invent something new.

Furthermore, Taiwan and the U.S. have demonstrated their ability to co-create a better world. Everyone would be quick to recognize there is tremendous potential for economic gain. After Canada and Japan, the economies of Hong Kong, Mainland China, and Taiwan taken together comprise the U.S. third largest trading partner (USA-ROC). Economic integration of these three countries will constitute the world's largest single ethnic market. Mainland China has 22% of the world's population and is the nation with the fastest growing middle class of consumers. Cultural knowledge through graphic communications is key. Motorola recognized this potential and expanded its reach as well as its HRD capability by extending Motorola University West from Mesa, AZ, to Beijing, Hong Kong, Kuala Lampur, and Singapore through its Asia Pacific Center.

Southeast Asian countries are implementing distance education. The Southeast Asian Ministers of Education Organization (SEAMEO) the project "A Scenario for Education in Southeast Asia in the Year 2015." Building Scenarios for Education in Southeast Asia: The SEAMEO INNOTECH Experience identified distance education as a major thrust in the immediate future (Habana, 1993). SEAMEO is a logical "cluster" of countries to involve in a multilateral project, the type of effort suggested in The Next American Frontier and The Work of Nations (Reich, 1991)(see Apprndix 3 b).

HIGH PERFORMANCE LEARNER AND LEADER

Ultimate Purpose

The ultimate purpose of graduate and postgraduate education is to design programs to promote improvement in the quality of services that are provided in a variety of different contexts and systems -- health and human services, business and industry, government and public service, and education and training. To achieve that ultimate purpose, professional educators engage in basic and applied research, analyze and synthesize vast quantities of information, and create **conceptual frameworks and action plans** for the preparation of leaders for the above-mentioned contexts. PHE's mission is to produce high quality graduates in five specializations who are Human Resources Development Design Engineers. Thus, one ultimate outcome of PHE is to empower self-directed **"Learner Leaders"** who can either (a) achieve greater efficiency and effectiveness from contemporary education and training programs or (b) design more efficient and effective education and training programs.

A High Performance Learner and Leader (HPLL) in the 1990s needs better competencies and newer skills than a manager needed during the **expansion** era of the 1950s and 1960s or for the **modernization** era of the 1970s and early 1980s. Modernizing education and training in the 1970s and 1980s was difficult during a period of major advances in science and technology which impacted on workplace and workforce needs. The transition from an industrial era to an early technical era was complex and fast. However, the transition from the early technical era to the advanced technical era of the late 1990s and 21st century will be even more complex and occur at an even faster rate. What then should be the vision and action plan that is likely to yield world class HPLL? An examination of titles of reports of the VTOE specialization indicates a historical sequence of change in program emphasis that suggests direction:

Preparing Agents for Change	1984-85
Preparing Transformational Leaders	1986-87
Preparing Strategic Thinkers	1998-89
Preparing Transformational Leaders for Fundamental Restructuring	1990-91
Building Learning Communities	1992

Conceptual Framework for Competencies of a HPLL

Analysis of a number of concepts is important as a prelude to thinking about program components and formats. All HPLLs need to understand the PAST, the PRESENT, and have some meaningful learning experience in anticipating the FUTURE. All HPLL need to understand issues such as access, cost, productivity, quality, restructuring, revitalizing, synchronizing, and thinking globally (see Attachment 61).

ERAS

PAST

PRESENT

FUTURE

ISSUES

ACCESS
COST
PRODUCTIVITY
QUALITY
RESTRUCTURING
REVITALIZING
SYNCHRONIZING
THINKING GLOBAL

"FUTURE PULL" PLANNING

	Creation	Co-Creation
ANALYSIS	External Environment (Past, Present, Future) Internal Environment (Past, Present, Future)	
VISION		
ACTION PLAN		

Access

The PAST of ACCESS is well documented in research literature. The PRESENT of ACCESS includes dimensions of the MIND and SYSTEMS. From the perspective of the MIND, acknowledge that the left hemisphere and the right hemisphere perform different functions. Beyond that, there may not be much agreement on types of intelligences or neurolinguistic programming. Traditional education tends to program students to use primarily one side of the brain. From the SYSTEMS perspective, ACCESS to the electronic highways is the civil rights issue of the decade and will become increasingly more important in the 21st Century. Ponder the following advances in technology:

In 1955, it was hand set type and the platen press.

In 1981, it was the PC.

In 1985, it was desktop publishing.

In 1989, it was voice activated technology and desktop presentations with sophisticated graphics.

In 1993, it was voice activated typewriters and electronic books.

In 1994, it is multilingual continuous voice activated desktop videoconferencing which minimizes geographic, language, physical and temporal restrictions.

In 1995, it will be asynchronous transfer mode (ATM) technology with continuous voice activated software on a PC using cellular communications technology to access **databases** through local area **networks** (LANs) and then to wide area **networks**.

Principle and Questions

Communication consists of sender, message and receiver. Effective communication is more likely to occur when some diagnostic information is known about both receiver and sender. How can PHE use diagnostic data such as learning styles and planning preferences to customize instruction?

All HPLL should have a learning experience relative to extrapolating historical data into the future and analysis of impact on people and work. The VTOE Cycle 4 report has a package of variables extrapolated into the future with examples of student work (Groff, 1991). Where should this learning experience be placed in the IDEAL program sequence?

Without access to the latest in contemporary technology, a learner is receiving less than a complete education. What are the implications of raising awareness and understanding about advances in science and technology and access to technology for PHE? What are the implications for rethinking the PHE components (seminars, practicums, and MARP) to provide access to existing NSU technology and the delivery of PHE in a multi-tech format?

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"Third Wave" Transformational Leader

James McGregor Burns (1978) drew the distinction between transactional managers and transformational leaders. Transactional managers handle many transactions efficiently. Transformational leaders seek clarity of attitudes, beliefs, and values to elevate levels of stimulation to create more effective and higher quality establishments and services.

During the 1980s, several really significant "mindset" shaping events occurred in addition to those listed earlier in this document. At the World Future Society annual meeting in Toronto in 1980, Masuda described the Think Tank visioning strategy used by Japan to clarify the image of The Information Society (1979) and to identify strategic directions to pursue in research and development and tactics to position industries in the emerging economy.

During the early 1980s, the University Council for Educational Administration (UCEA) produced a series of reports entitled (a) Society and Education: Educational Management for the 1980s and Beyond; (b) Critical Challenges for Leaders Who Anticipate and Manage the Future; (c) Understandings, Attitudes, Skills and Symbols: Leadership in the Future, and (d) Implications for Preparation Programs and In-Service Programs. The third document contained (a) understandings, (b) leadership attitudes, (c) leadership skills, and (d) enduring leadership skills (Cunningham and Payzant, 1983). These documents and others coupled with practical experience as a chief academic officer who helped to modernize a college and who served as a volunteer leader in many organizations led to proposals for leadership seminars submitted to two doctoral programs in the Abraham Fischler Center for the Advancement of Education at Nova Southeastern University.

Programs for Higher Education

A proposal was developed for a core seminar in the Programs for Higher Education which was taught for a few students in the VTOE specialization via independent study for seven students in 1990-91. The Leadership core seminar was implemented for all students beginning fall of 1991. Personnel - Human Resources Development was moved from the VTOE specialization into the core beginning fall of 1990. The curriculum change recognizes the **centrality of human resources development** and the **primacy of leadership**.

The above-mentioned research on leadership was presented at the 1990 summer institute on the theme Leadership for Innovation and Change (see Attachment 62). The research was used to develop a series of conferences for winter and spring of 1991. That background is available in a report (Groff, 1991, ED 335 519). The primary leadership

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- LEADERSHIP
  - VISION
  - MS = OD + HRD

FOR

- INNOVATION
  - INVENTIONS
  - DISCOVERIES

AND

- CHANGE
  - MAGNITUDE (MACRO)
  - RATE - SPEED (FAST TRACK)

competency is creating and co-creating a vision that is converted into a multiyear action plan. Maximum synergism is achieved when organizational development and human resources development components are in harmony with each other. Innovation is a deliberate intent to invent something new through which discoveries will be made. Change is of greater magnitude and occurring at an faster rate. During the expansion era, visioning competencies consisted of more of the same but bigger and sometime better. During the modernization era, visioning competencies required a deeper understanding of science and technology and the impact on workplaces and the implications for workforce competencies. During the restructuring era, visioning competencies that are needed relate to skills for fundamentally restructuring industrial era establishments and creating entirely new world class entities.

Mercer County Community College

A parallel activity occurred that is important in many ways. Several employees of Mercer County Community College enrolled in the Philadelphia Cluster in the fall of 1990. The students competed Societal Factors in the fall and then took Human Resources Development in the winter of 1991. A discussion with then President John P. Hanley led to a "Proposal for a Cooperative Project" between MCCC and PHE.

Phase I consisted of a strategic planning workshop for MCCC employees held on June 11 and the completion of a "plan to plan" document through technical assistance while the employees were enrolled in Governance and Management in the fall of 1991. One outcome was the immediate impact of the oral presentations by the MCCC employees to the Philadelphia Cluster in December. A second outcome was Mercer County Community College Strategic Planning Model and a collaborative practicum report (Bolge, 1992). Total Quality Commitment (TQC) concepts were applied to the planning process and the "plan to plan" document (Groff, 1992). Practicums are related to the plan such as the Development of a Plan to Make the Office of Institutional Research a Human Resources Development Utility at Mercer County Community College (Bolge, 1993).

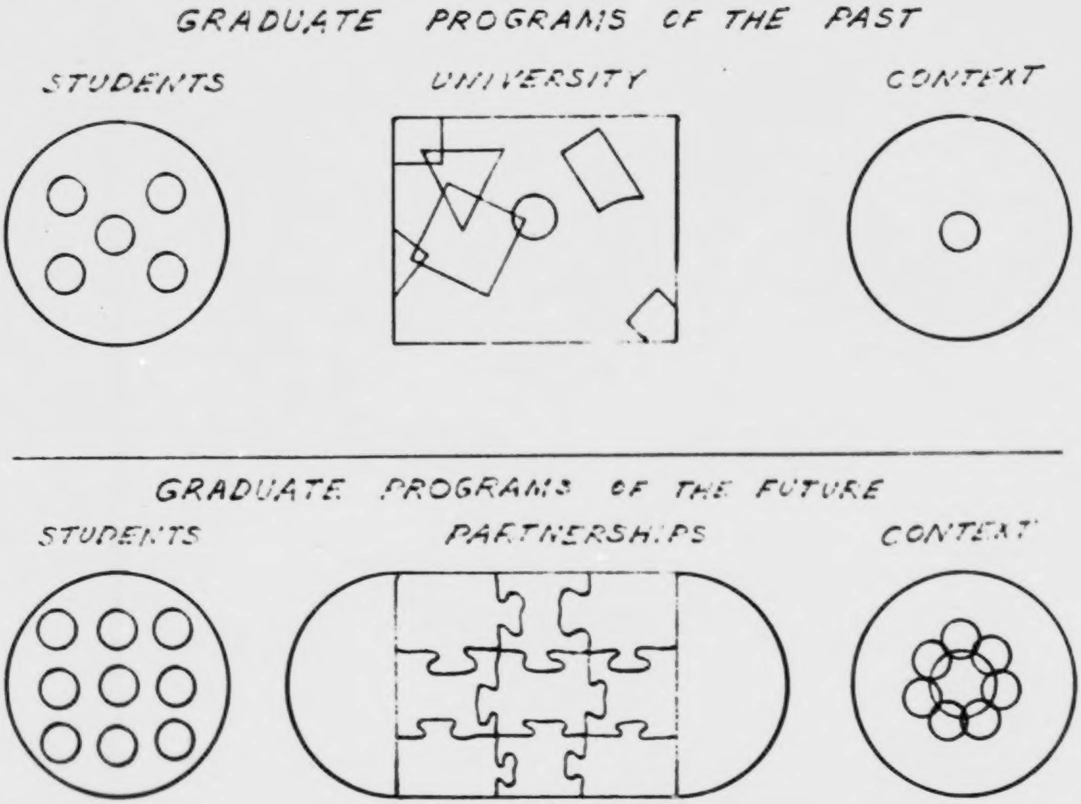
Phase II consists of implementation of the planning process adopted by MCCC. Phase III will consist of evaluating the impact of practica and MARPs on MCCC. The merit of the approach is displayed on Attachment 63. Traditional graduate programs in the past admitted students and provided services that sometimes relate to needs. This approach produced a product that was essential to the the college. Imagine groups of individuals pursuing doctoral work related to strategic directions of a system, institution, or the goals and objectives of a unit.

MERCER COUNTY
COMMUNITY COLLEGE

AND

NOVA UNIVERSITY
PROGRAMS FOR HIGHER EDUCATION

COLLABORATIVE


GRADUATE PROGRAMS OF THE PAST
STUDENTS
UNIVERSITY
CONTEXT
GRADUATE PROGRAMS OF THE FUTURE
STUDENTS
PARTNERSHIPS
CONTEXT

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Child and Youth Studies

A parallel proposal submitted to another doctoral program led to discussions to begin a restructured program with Leadership I and conclude the series of study areas three years later with Leadership II. Specializations are (a) Curriculum Development and Systemic Change, (b) Management of Programs for Children and Youth, (c) Special Services for Children and Youth, and (d) Application of Technology to Education and Training (see Attachment 64).

In Leadership I, each student identifies two problems which intrude on her/him and specifies a list of issues for each problem. Each student collaborates with others in small groups to specify issues for each of two problems. Problems relate to all America 2000 goals and objectives. Each list must include technology, either know-how process technology such as strategic planning and total quality or communication and information technologies. Each student distributes a copy of two problems and the issues to clustermates who are encouraged to create a file for each problem they think may have relevance to them in the future. Several concepts introduced in Leadership I are built upon in the specializations. For example, strategic planning is presented more fully in MOP to focus on program planning.

Each student creates a Professional Development Plan (PDP) which contains (a) a brief analysis of self and work context and (b) goals and objectives linked to CYS learning experiences. Methodology and resources are identified to accomplish goals and objectives. Each student keeps a journal of significant conceptual, interactive, and technical learnings throughout CYS with particular emphasis on the areas of specialization. The PDP and journal are integrated with the latter being a record of increments of change. Each student makes an oral presentation to the cluster on an area of focus and the competencies and skills s/he will contribute to the "Learning Community."

Each student pursues learning activities: research and evaluation, human development, an area of specialization, political process and social issues, two practicums, and two summer institutes during which students hear many experts.

Leadership II is a demonstration of the application of leadership skills in the three step process: **Analysis, Vision, and Action Plan** development. Each student analyzes the significant concepts and then creates a vision such as the EDUCARE by Heather McDaniel.

The Child and Youth Studies (CYS) offered Leadership I for the first time in 1989. After starting four clusters in a didactic format, national multitech clusters were

CHILD & YOUTH STUDIES

SPECIALIZATIONS

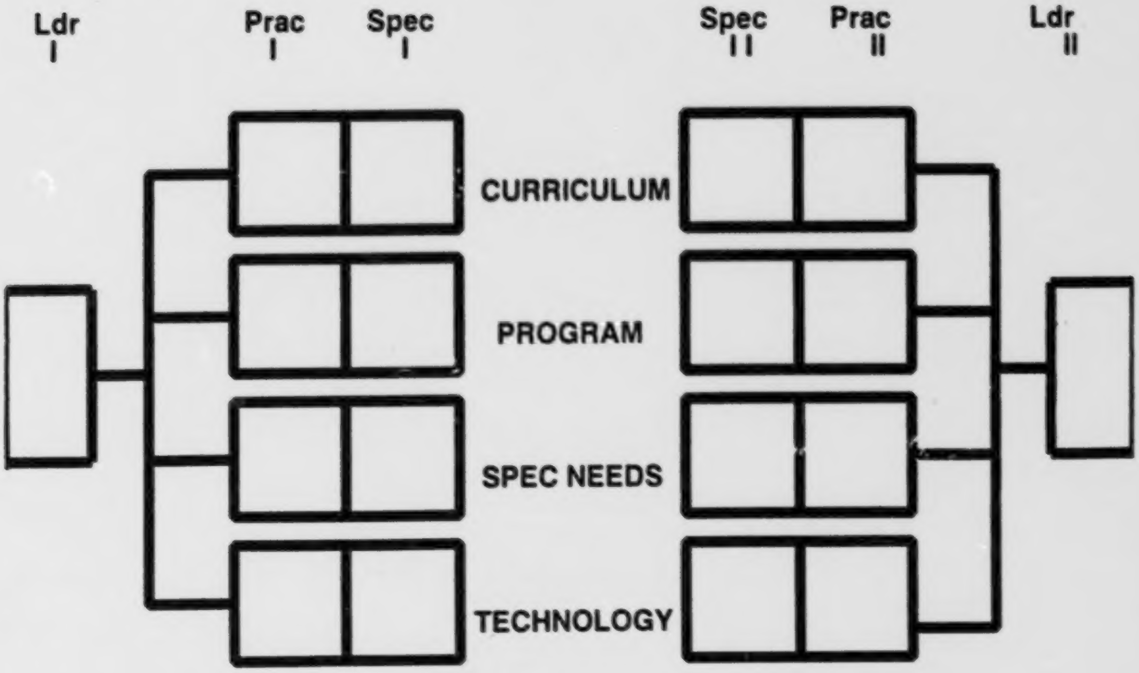
CURRICULUM DEVELOPMENT AND SYSTEMIC CHANGE

MANAGEMENT OF PROGRAMS FOR CHILDREN & YOUTH

SPECIAL SERVICES FOR CHILDREN & YOUTH

APPLICATION OF TECHNOLOGY TO EDUCATION & TRAINING

CYS PROGRAM



started February 1991, February 1992, October 1992, February 1993, and October 1993. Some of the instruction is delivered through "electronic classrooms" and the professionals have access to whatever is available through the electronic highways. The first national cluster completed Leadership II in February.

Clusters taught by this author are:

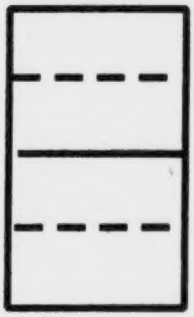
		1989	1989-90	1990-91	1991-92	1992-93	1993-94
#34		L-I			L-II		
#37			L-I		L-II		
#38			L-I			L-II	
#40				L-I		L-II	
#46	National Cluster			L-I			L-II
#50	National Cluster				L-I		
#51	Alexandria, VA				L-I		
#54	National Cluster					L-I	
#57	King of Prussia, PA					L-I	
#59	National Cluster					L-I	
#62	National Cluster						L-I
#65	Wilmington, DE						L-I

Cluster 57 was the first group that was started in a regular format which parallels a cluster taking CYS in a multi-tech format. Judith Frier, math teacher in the Greenwich (CN) Public Schools, chose "Implementing the New Mathematics Standards Nationally" and "Utilizing Cooperative Learning Strategies to Support the Standards" as two problems and issues which she will pursue throughout CYS. Viola Stallings, Senior Systems Engineer for EduQUEST - An IBM Education Systems Company in Mt. Laurel (NJ), chose "Using Technology in Mathematics and Science" and "Using Technology in the Classroom" as two problems and issues which she will pursue through CYS. In Cluster 59, Fabio Zuluaga, a science - Spanish resource teacher at Central Middle Magnet School in Kansas City, MO, chose "Immersion Education" in science for middle school youngsters and "Computers in Immersion Classes" as the problems and issues which he will pursue through CYS. Although students live in several countries (Canada, Israel, Puerto Rico, Virgin Islands) and most states, they are collaborating online and transmitting information electronically.

There is no doubt that the multi-tech format provides access for professionals who want to pursue a doctoral program but cannot do so in a traditional manner. CYS can produce a higher quality Third Wave Transformational Leader in the multi-tech format than is possible to produce in the traditional format (see Attachment 65). Each new cluster is the beneficiary of lessons learned from feedback from professionals progressing through the pipeline. A fourth session was added to Leadership I beginning 1993-94. That fourth session provides an opportunity to identify things to be learned about the mind and about systems for LDP goals.

LEADERSHIP II

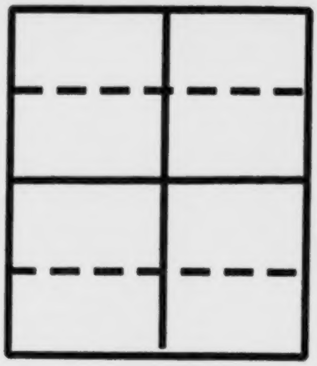
START



MULTI-MEDIA

ELECTRONIC CLASSROOMS
NOTES
ELECTRONIC LIBRARY
INTERNET
AUDIOTAPE
VIDEOTAPES

COMMENCE



ANALYSIS, SYNTHESIS, & TRANSFORMATION

VISION CREATION & CO-CREATION

ACTION PLAN CREATION & CO-CREATION

PRESENTATION OF VISIONS & ACTION PLANS

TRANSFORMATIONAL LEADERSHIP

LEADERSHIP I

LEADERSHIP II

AWARENESS & UNDERSTANDING

COMMITMENT & DEDICATION

Multitech HRD for PHE

A multitech format in PHE could yield a qualitatively superior HPLL and provide access to a greater number of students who (a) cannot pursue a doctoral degree in a traditional manner or (b) want to pursue graduate studies through contemporary concepts and applied know how and state of the art technology. Contemporary concepts and applied know how would include (a) collaborative learning with other professionals with similar predispositions and with others with dissimilar predispositions on some major project to better understand the significance of culture and early programming, (b) pursuing learning experiences that match individual and institutional needs in a mosaic of seminars that could lead to one or more certificates, and (c) taking a seminar in an open entry/open exit format which minimizes temporal restrictions, and other constraints.

Multiple discussions have been held about the ideal sequence of seminars. The results of student analysis of the sequence at the 1992 PHE summer institute and the discussions which followed indicated that HRD should be developed in a multitech format so that (a) individuals could better understand "self" with the assistance of some diagnostic tools, (b) better understand the nature of the HRD challenge as the world moves toward an advanced technical era, and (c) better understand the PHE program and add greater clarity to her/his goals and objectives. The sequence of seminars if fit into the common two year format would be HRD, Societal Factors, and Research Problem Solving Methodologies in the first year followed by Curriculum and Program Planning, Leadership, and Governance and Management during the second year (see Attachment 66).

Curriculum and Program Planning (CPP) was suggested as the seminar for the pilot by Ostertag (1991), followed by HRD. PHE students indicated that understanding centrality of HRD -- **mind** (ENDS) and **systems** (means) -- is a necessary prerequisite to CPP. CPP was piloted in 1992-93 with mixed reviews and some planning occurred for HRD in winter 1993. HRD in a multitech format is displayed in Attachment 67a. As a student works on an analysis assignment, s/he could scroll down the multitech menu to "Functions" and click to scan a second menu with additional information about the **functions** of a typical organization with appropriate references (see Attachment 67b). As the student works on the vision and visioning assignment, s/he would scroll down the menu to look at research about planning styles and their value in vision creation and co-creation. If the student selected Outcomes Based Education for her/his HRD vision and action plan project, the click on OBE would yield a screen of OBE related titles with screens (see Attachment 68).

BEST COPY AVAILABLE

MULTITECH DELIVERY SYSTEM

SUMMER				SUMMER
HUMAN RESOURCES DEVELOPMENT	X—X—X—X—X—X			X
SOCIETAL FACTORS		X—X—X—X—X—X		X
PROBLEM SOLVING METHODOLOGIES			X—X—X—X—X—X	X

MULTITECH DELIVERY SYSTEM

SUMMER				SUMMER
CURRICULUM	X—X—X—X—X—X			X
LEADERSHIP		X—X—X—X—X—X		X
GOVERNANCE & MANAGEMENT			X—X—X—X—X—X	X

HUMAN RESOURCES DEVELOPMENT - MULTI-TECH

ORIENTATION	1ST MONTH	2ND MONTH	3RD MONTH
NOVA UNIVERSITY PROGRAM FOR HIGHER EDUCATION HUMAN RESOURCES DEVELOPMENT 1. ANALYSIS (AUDIT) 2. VISION 3. ACTION PLAN DIAGNOSTIC TESTS 1. PEOPLE 2. ESTABLISHMENTS LUNCH MULTI-TECHNOLOGY SEQUENCE OF LEARNING ACTIVITIES	ANALYSIS VIDEOTAPE (WORKSITE AUDIT) Ecr #1 1. AUDIT REVIEW 2. FOUR PROJECTS VISION VIDEOTAPE (CONCEPTUAL FRAMEWORK FOR ONE PROJECT) Ecr #2 VISION-CREATION AND CO-CREATION	ACTION PLAN VIDEOTAPE Ecr #3 1. RATIONAL 2. GOALS: OBJECTIVES RESOURCES AUDIOTAPE 1. FOUNDATIONS 2. FEDERAL GOVT. Ecr #4 1. METHODOLOGY 2. EVALUATION 3. BUDGET	VIDEOTAPE ON ORAL PRESENTATION Ecr #5 1. ISSUES 2. FINAL EXAMINATION PRACTICUM VIDIOTAPE 1. RESEARCH QUESTIONS 2. METHODOLOGY Ecr #6 SYNTHESIS AND EVALUATION
OUTCOME: A PROFESSIONAL DEVELOPMENT PLAN			

MULTI-TECH MENU

ANALYSIS	VISION & VISIONING		ACTION PLAN	
Mission Review	Mind &	Systems	Readiness	
Philosophy	Cognitive Dev.	Strategic Planning	a.	Preschool
Vision	Social Dev.	Outcomes Based Ed.	b.	Parents
Policies	Physical Dev.	Needs Assessment	c.	Health
Functions	Moral Dev.	Program Review	Math. Sci., Tech	
Know how	Learning Styles	Total Quality	a.	Math
Technology	Planning	Tech. Prep.	b.	Science
	Preferences	1S0 9000	c.	Technology
Budget	Neurolinquistic	Site Based Mg.	-	Bio-related
	Programming	Org. Dev.	-	Communication
		Databases	-	Construction
		Networks	-	Engineering
			-	Manufacturing
			-	Transportation

OUTCOMES BASED EDUCATION

- Quality Education Program Study
- Competency Based Teacher Education
- American Board of Pediatrics Competencies
- Outcomes: Output and Impact (National Center for Higher, Education Management Systems)
- Research by the National Center for Research in Vocational Education
- The College Board - Tennessee State-Wide School-College Collaboration for Education Excellence
- Student Learning Outcomes Assessment (North Central Association)
- Institutional Effectiveness Assessment (Southern Association)

CONCLUSION

PHE has added HRD to the series of core seminars. The HRD core seminar description is stated as follows:

> This seminar treats the development of human resources within organizations. Contemporary theory, research and practice are explored. The quest to improve organizational effectiveness ultimately rests on the philosophical conviction that people are the essential capital assets. Thus, the seminar views the more effective organization of the future in terms of the strong relationship between organizational development and human resources development strategies.

The conceptual framework for the HRD core seminar consists of (1) an audit of HRD within the student's work context, (2) a vision of a strategic direction and preferred scenario for an area of responsibility within each student's work context, and (3) the creation of a multi-year HRD action plan including conceptual, interactive, and technical skills with budget estimates for implementation.

First, the HRD faculty must facilitate the seminar from the heart because the course is the soul of PHE. Second, PHE must make a Total Quality Commitment to Human Resources Development. Third, PHE must develop a multi-tech option. The HRD core seminar should be the first seminar in the multi-tech format so that each student can understand more fully the centrality and create a Professional Development Plan for maximizing growth throughout PHE.

Numerous issues will be important in the 1990s. No issue will be more important, however, than assembling the critical mass of Human Resources Development Systems Engineers who will design and implement forms of alternative education which will produce a critical mass of intellectual capital, High Performance Learners and Leaders, who can create Learning Communities in an Advanced Technical Era.

* * * * * * * * * *

CREATING SOMETHING NEW AND FRESH

> The major task for society and the economy is
> to create something new and fresh as opposed
> to just improving on the old.

Peter Drucker. Innovations and Entrepreneurship Principles and Practices. New York, NY: Harper and Row, Inc., 1985.

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BIBLIOGRAPHY

America 2000: An education strategy (1991). Washington, D.C.: U.S. Department of Education.

America's choice: High skills or low wages. (1990). Rochester, NY: The National Center on Education and the Economy.

Academic preparation for college. (1983). New York: College Board.

Adams, J.M. (1989). Public and community education. Critical Trends For The 1990s. Chadds Ford, PA: Research and Engineering Council of the Graphic Arts Industry.

Basic agenda (1987). Sacramento, CA: Board of Governors California Community Colleges.

Bates, A.W. (1989, June). Toward a European electronic university: Technology and course design for European-wide distance education courses. Heerlen, Netherlands: European Association of Distance Teaching Universities. (ERIC Document Repoduction Service No. ED 318 427)

Belasco, M.A. (1990). Teaching the elephant to dance. New York: Crown.

Benchmarks for science literacy. (1993). Washington, DC: American Association for the Advancement of Science.

Bleed, R. (1993). Community colleges: Using information technologies to harness the winds of change. In R. C. Heterick, Jr., (Ed.) Reengineering Teaching and Learning in Higher Education, pp. 21-26. Boulder, CO: CAUSE.

Bolge, R.D., Barchi, P.H., Benowitz, E.A., Coopersmith, L. B., Dowd, J.A., Kopcho, R.J., Mayer, W.A., Mennuti, A. J. (1991). Mercer County Community College strategic planning model. Unpublished practicum report in governance and management, Nova Univ, Ft. Lauderdale.

Bolge, R.D. (1993). Development of a plan to make the office of institutional research a human resources development utility at Mercer County Community College. Unpublished practicum report in human resources development, Nova University, Ft. Lauderdale.

Botkin, J., Dimancescu, D., Strata, R. (1982). Global stakes: The future of high technology in America. Cambridge, MA: Ballinger Publishing Company.

Bottoms, G., and Presson, A. (1989). Improving general and vocational education in the high schools. Atlanta, GA: Southern Regional Education Board.

Boyer, E.L. (1991). Ready to learn: A mandate for the nation. Princeton, NJ: The Carnegie Foundation for The Advancement of Teaching.

Braun, E. (1994). The internet directory. New York: Fawcett Columbine.

Bruffee, K.A. (1993). Collaborative learning. Baltimore, MD: The Johns Hopkins University Press.

Burns, J.M. (1978). Leadership. New York, NY: Harper & Row.

California community college reform (1987). Sacramento, CA: Joint Committee for Review of the Master Plan for Higher Education.

Carnevale, A.P. (1992). Learning: The critical technology. San Francisco, CA: Jossey-Bass Publishers.

Carnevale, A.P. and Leila J.G. (1989) The learning enterprise. Alexandria, VA: American Society for Training and Development.

Carnevale, A.P., Gainer, L.J., and Meltzer A.S. (1991). Workplace basics: The essential skills employers want. San Francisco, CA: Jossey Bass Publishers.

Carney, R.E. (1994). Development and implementation of a total quality management manual for Thomas Technical Institute. Unpublished major applied research project prospectus. Nova University, Fort Lauderdale.

Challenge of change: A reassessment of the California Community Colleges (1986). Sacramento, CA: Commission For the Review of the Master Plan For Higher Education.

Chang, F.T.J. (1991). The impact of the 1950s Sino-American industrial vocational cooperative project on the current technical vocational education in the Republic of China. Paper presented at the Annual Meeting of the American Vocational Association.

Changing role of vocational and technical education (1994). Washington, DC: Organization for Economic Co-operation and Development.

Charp, S. (March, 1994). Editorial. T.H.E. Journal, 21(8), 8.

Choosing the future: An action agenda for community colleges (1993). Sacramento, CA: California Community Colleges.

ClariNews. San Jose, CA: ClariNet.

Clement, J. (1992). Statewide network connections for K-12 educators. *EDUCOM review*, *27*, pp. 17-20.

Collins, R.W. (1993). *A handbook on strategic and operational planning for chairpersons at Chabot College*. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Community Learning and Information Network. Washington, DC: U.S. Chamber of Commerce.

Comprehensive analysis (1988). Sacramento, CA: Board of Governors, California Community Colleges.

Conklin, J.J. (1994). *The development of strategic plans for implementing distance education in social work education*. Unpublished major applied research project, Nova University, Ft. Lauderdale. ED 360 892.

Critical trends for the 1990s. (1989). Chadds Ford, PA: Research & Engineering Council.

Critical trends: Graphic communications industry (1994). Chadds Ford, PA: Research and Engineering Council.

Cunningham, L.C., and Payzant, T.W. (1983). *Understandings, attitudes, skills, and symbols: Leadership in the future*. University Park, PA: The University Council for Educational Administration, The Pennsylvania State University.

Curriculum and Evaluation Standards for School Mathematics. (1991). Reston, VA: The National Council of Teachers of Mathematics.

Cupples, M.W. (1992). *Workforce education and training requirements for communication and information technologies at the United States Army Aviation Center*. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Daggett, W. R. (1990). *Preparing for employment*. Albany, NY: New York State Education Department.

Daggett, W.R. (1991). Identifying the skills students need for success in the workplace: Implications for curriculum and assessment. Schenectady, NY: International Center for Leadership in Education.

Danzberger, J.P., Kirst, M.W., and Usdan, M.D. (1992). Governing public schools. New times. New requirements. Washington, DC: The Institute for Educational Leadership.

Design specifications. (1993). St. Paul, MN: Community Learning Centers.

Developing the global workforce (1994). Bethlehem, PA: College Placement Council.

Dionne, J.L. (1990). Beyond the global village. San Diego, CA: San Diego Communications Council.

Dionne, J.L. (1992, May 13). Publishing for the individual. Washington, DC: Association of American Publishers.

Dowd, S.B. (1992). Development of a future-based strategic plan for a radiography program. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Dyrenfurth, M.J. (1984). Literacy for a technological world. Columbus, OH: The National Center for Research in Vocational Education.

Educating Americans for the 21st century: A plan of action for improving mathematics, science and technology education for all American elementary and secondary students so that their achievement is the best in the world by 1995 (1983). Washington, DC: National Science Board Commission on Precollege Eduction in Mathematics, Science and Technology.

Education-community-business partnerships. (1992, Fall). Washington, DC: U.S. Department of Education.

Education technology: Planning for the 21st century. (1991). Rockville, MD: Montgomery County Public Schools.

Emerging technologies: A survey of technical and economic opportunities. Washington, DC: Technology Administration, U.S. Department of Commerce, 1990.

Enderlyn, A., and Dziggel, O.C. (1992). Cracking the Pacific Rim. Chicago, IL: Probus Publishing Co.

Eurich, N.P. (1985). Corporate classrooms. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

European Association of Distance Teaching Universities. Heerlen, The Netherlands.

Farrell, R., and Gring, S. Technology strategically planned: A dismal or bright future? *T.H.E. Journal*, *21*(4), pp. 119-122.

Fact finding report (1994). Washington, DC: U.S. Department of Labor.

Federal Quality Institute (1993). *Information network*. Washington, DC: Federal QM Documents.

Federal Quality Institute (1993). *Self-assessment guide for organizational performance and customer satisfaction*. Washington, DC: U.S. Government Printing Office.

Federal TQM documents catalog and databases users guide. (1992). Washington, DC: Federal Quality Institute Information Network.

Foundations for evaluating the competency of pediatricians. (1974) Philadelphia, PA: American Board of Pediatrics.

Gaining new ground: Technology priorities for America's future (1991). Washington, DC: Council on Competitiveness.

GATF training programs and technical certification. (1992). Pittsburgh, PA: Graphic Arts Technical Foundation.

Gelman, D. (1992, April 20). Is the mind an illusion? *Newsweek*.

Gooler, D.D. (1986). *The education utility: The power to revitalize education and society*. Englewood Cliffs, New Jersey: Educational Technology Publications.

Goals for education: Challenge 2000. (1988). Atlanta, GA: Southern Regional Education Board.

Gore, A. (1993). *Creating a government that works better & costs less*. Washington: U.S. Govt Printing Office.

Gould, S.B. (1970). *Today's academic conditions*. New York, NY: McGraw Hill.

Greater Philadelphia regional data base index (1992). Philadelphia, PA: Greater Philadelphia Economic Development Council.

Gracia, R. (1992). The development of a total quality management curriculum guide for the defense plant representative office. Unpublished practicum report in curriculum and program planning. Nova University, Fort Lauderdale.

Greenfield, E. (1993, May). Evolution of the textbook: From print to multimedia. T.H.E. Journal, (20)10, pp. 12-17.

Groff, W.H. (1981). Technical education: A catalyst for local economies. Journal of Studies in Technical Careers III(4), pp. 368-380.

Groff, W.H. (1983). Strategic planning for technology transfer. Journal of Studies in Technical Careers V(3), pp. 260-274.

Groff, W.H. (1983). Impacts of the high technologies on vocational and technical education. ANNALS of the American Academy of Political and Social Science, 470, pp. 81-94.

Groff, W.H. (1986a). North Central Technical College. In J.W. Leslie (Ed). Computers Serving Students: The Community College Way, (pp. 70-84). Boulder, CO: CAUSE.

Groff, W.H. (1986b). Perspectives on the Education and Training System of the Future. Columbus, OH: The Ohio State University Clearinghouse on Adult, Career and Vocational Education, 1986. (ERIC Document Reproduction Service No. ED 272 774)

Groff, W.H. (1986c). Scientific and technological literacy. Nashville, TN: Tennessee Board of Regents.

Groff, W.H. (1987). The learning community of the future: Education and training in the 21st century. Paper presented to the Commission on the Future of Community Colleges, American Association of Community and Junior Colleges, April 1987. ED 280 538.

Groff, W.H. (1989). Toward the 21st century: Preparing strategic thinkers in vocational, technical, and occupational education. (ERIC Document Reproduction Service No. ED 053 431).

Groff, W.H. (1991). Restructuring for the 90's and beyond: An era of smart homes, wired communities, intelligent systems, global networks, and fast forward learners in a borderless world. Washington, DC: George Washington University, Clearinghouse on Higher Education. (ERIC Document Reproduction Service No. ED 343 484)

Groff, W.H. (1992). Toward the 21st century: Preparing strategic thinkers in vocational, technical, and occupational education for building learning communities. (ERIC Document Reproduction Service No. ED 351 499).

Groff, W.H. (1993a). Toward the 21st century: Preparing proactive visionary transformational leaders for building learning communities through multi-technology. Leadership I Formative Evaluation of Cluster 54. (ERIC Document Reproduction Service No. ED 357 829)

Groff, W.H. (1993b). Toward the 21st century: Preparing proactive visionary transformational leaders for building learning communities. Leadership II Formative Evaluation of Cluster 37, October 14, 1989, through June 6, 1992. (ERIC Document Reproduction Service No. ED 352 126)

Groff, W.H. (1993c). Toward the 21st century: Preparing proactive visionary transformational leaders for building learning communities. Human Resources Development, Fall 1992. (ERIC Document Reproduction Service No. ED 359 412)

Groff, W.H. (1993d). Toward the 21st century: Preparing proactive visionary transformational leaders for building learning communities. Human Resources Development, International Cluster, Summer 1993. (ERIC Document Reproduction Service No. ED 352 126)

Grubb, W.N., Davis, G., Lum, J., Plihal, J., and Morgaine, C. (1990). *The cunning hand, the cultured mind: models for integrating vocational and academic education*. Berkeley, CA: National Center for Research in Vocational Education.

Habana, P.I. (1993). *Building scenarios for education in Southeast Asia: The SEAMEO INNOTECH experience*. Quezon City, Philippines: U.P. Diliman.

Halpern, S. (1984). *Any home a campus: Everyman's University of Israel*. Washington, DC: The Institute for Educational Leadership.

Hayes, R., and Osborne, D. (1993). *Handbook for planners:* Embry-Riddle Aeronautical University. Daytona Beach, FL: Embry-Riddle Aeronautical University.

Healthy America: Practitioners for 2005. (1991). Durham, NC: The Pew Health Professions Commission.

Health people 2000: National health promotion and disease prevention strategies. (1990). Washington, D.C.: U.S. Government Printing Office.

Health professions education for the future: Schools in schools in service to the nation. (1993). Durham, NC: The Pew Health Professions Commission.

Heinanen, J. (1993, August). Telecom Finland first with commercial ATM. REACHING OUT, (4), pp. 16-18.

Helm, L. (1993, October 24). Seen globally, U.S. information 'road' is barely paved. The Commercial Appeal, p. C1.

Henry, T. (1993, November 5). Gifted kids are bored in U.S. schools. USA Today, p. 2A.

Heterick, R.C. (March/April, 1993). EDUCOM calls for a national network not a federal network. EDUCOM UPDATE, 2(2), 1.

Heydinger, R.B., and Simsek, H. (1992). An Agenda for Reshaping Faculty Productivity. Denver, CO: State Higher Education Executive Officers.

Hodgkinson, H.L. (1986). California: The state and its educational system. Washington, DC: The Institute for Educational Leadership.

Hoerner, J.L. (1991). Tech-prep: A viable solution for the forgotten half. ATEA Journal, 18, pp. 18-20.

Howze, K. (1993). A vision for social services where information empowers. Vision and action plan papers written for Leadership II. (see Groff, 1993c).

Hull, D. (1992). Getting started in tech prep. Waco, TX: Center for Occupational Research and Development.

Hull, D., and Parnell, D. (1991). Tech prep associate degree. Waco, TX: Center for Occupational Research and Development.

Immunization Partnership: A Joint Project of Every Child By Two and the American Nurses Association (1993). Washington, DC: ECBT.

Initiatives for total quality schooling (TQS). (1993). Washington, DC: American Association of School Administrators.

Information 2000: Library and information services for the 21st century. (1991). Washington, DC: U.S. Government Printing Office.

Integration of vocational and academic education products (1993). Berkeley, CA: National Center for Vocational Education.

Jones, V.H., and Hutchins, E. (1993). Finding common ground: A call for collaboration. Arlington, VA: Nat. Center for Educ. in Maternal and Child Health.

Johnston, W.B., and Packer, A.E. (1987). Workforce 2000: Work and workers for the Twenty-first Century. Indianapolis, IN: Hudson Institute.

Jones, D.P., Rautenstraus, R.C., Finch, R. B., Fink, D.G, Bartram, J.W., and Matthews, J.B. (1981). An assessment of needs of high-technology industries. Boulder, CO: National Center for Higher Education Management Systems.

Kagan, S.L. (1990). Excellence in early childhood education: Defining characteristics and next-decade strategies. Washington, DC: Office of Educational Research and Improvement.

Katz, L.G. (1992). Readiness: Children and their schools. Washington, DC: Educational Resources Information Center.

K-12 computing network. (Winter, 1993). Washington, DC: U.S. Department of Education.

Kirkland, N. (1993). First the flower, than the fruit. Vision and action plan papers written for Leadership II. (see Groff, 1993c).

Kirsch, I.S., Jungeblut, A., Jenkins, L., and Kolstad, A. (1993). Adult literacy in America. Washington, DC: National Center for Educational Statistics.

Kochan, T.A. (1994). Shaping employment relations for the 21st century: Challenges facing business, labor, and government leaders. Conference on Changing Employment Relations and Human Resource Management in Asia, Chung-Hua Institution for Economic Research, Taipei, Taiwan, June 28-29, 1994.

Krol, E. (1992). The whole internet. Sebastopol, CA: O'Reilly & Associates.

Kupfer, A. (1993, April). The race to rewire America. Fortune, (127)8, pp. 42-67.

Lacampagne, C.B. (1993). Transforming ideas for teaching and learning mathematics. Washington, DC: U.S. Government Printing Office.

Lauria, J.J. (1994). Total quality management in an adult education environment. Unpublished practicum report in human resources development. Nova University, Fort Lauderdale.

Leebaert, D. (Ed.).(1991) Technology 2001: The future of computing and communications. Cambridge, MA: The MIT Press.

Leslie, J.W. (1981). As the third wave approaches higher education: Planning for the electronic institution. CAUSE/EFFECT, (4)1, 6-15.

Leslie, J. W. (Ed).(1986). Computers serving students: The community college way. Boulder, CO: CAUSE.

Lever, J. (1992). Technology-assisted facilitated learning: Teaching for the information age. Miami, FL: Homestead Campus, Miami-Dade Community College.

Literacy levels deficient for 90 million U.S. adults (1993, September). News. Washington, DC: U.S. Department of Education.

Linkage of vocational education and related services deliverers. (1984). Columbus, OH: National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 240 267).

Loftin, C.D. (1992a). Identification of specific needs to be met by an on-site child care program at Okefenokee Technical Institute. Unpublished practicum report in human resources development, Nova University, Ft. Lauderdale.

Loftin, C.D. (1992b). Development of guidelines of recommended characteristics for an on-site child care program at Okefenokee Technical Institute. Unpublished practicum report in human resources development, Nova University, Ft. Lauderdale.

Loftin, C.D. (1994). Development of a full service community family center for training purposes at Okefenokee Technical Institute. Unpublished major applied research project, Nova University.

Making Government Work: Electronic Delivery of Federal Services (September, 1993). Washington, DC: U.S. Government Printing Office.

Martin, J. (1978). The Wired Society. Englewood Cliffs, NJ: Prentice Hall.

Mathematics, science, and technology programs that work (1994). Washington, DC: U.S. Department of Education.

McClenney, K., LeCroy, N.A., and LeCroy, R.J. (1991). Building communities through strategic planning. Washington, DC: American Association of Community Col.

McCune, S.D. (1986). Guide to strategic planning for educators. Alexandria, VA: Association for Supervision and Curriculum Development.

McDaniel, H. (1993). EDUCARE: The design and implementation of a comprehensive early childhood wellness program. Vision and action plan papers written for Leadership II. (see Groff, 1993c).

McKenzie, K. (1993, October 24). Seen globally, U.S. information 'road' is barely paved. The Commercial Appeal, p. C1.

Melaville, A.I., and Blank, J. (1993) Together we can. Washington, DC: U.S. Government Printing Office.

Mestre, J. (1987). Why should mathematics and science teachers be interested in cognitive research findings? Academic Connections. The College Board.

Mikes, S. (1993, January-February). IN3 voice command. The X Journal.

Mobile messaging in the social branch. (1993, August). REACHING OUT, (4), pp. 32-34.

Moody, V. (1994). The development of a total quality management plan. Unpublished practicum report in human resources development. Nova University, Fort Lauderdale.

Moorman, H. (1989). The LEAD (leadership in educational administration development) program: An overview. Educational Consideration, (16)2, pp. 3-7.

Morgenstern, D. (1993, May). Mac info published on the internet. MacWeek, (7) 18, p. 18.

Motorola University (1993). Systems thinking: Skills for the learning organization. Farmington, MA: Innovation Associates.

Murray, C. (1984). Losing ground: American social policy, 1950-1980. New York: Basic Books, Inc., Publishers.

Olson, R., Jones, M.G., and Bezold, C. (1992). 21st Century learning and health care in the home: Creating a national telecommunications network. Alexandria, VA: Institute for Alternative Futures.

Oregon Benchmarks (1992). Salem, OR: Oregon Progress Board.

Ostertag, V. (1991). A multi-tech distance learning environment: A model for the Nova University Programs for Higher Education. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Perkins, J.A., and Israel, B.R. (1972). Higher education: From autonomy to systems. New York: International Council for Educational Development.

Printing 2000 (1990). Alexandria, VA Printing Industries of America.

Promising practices in mathematics & science education. (1994). Washington, DC: U.S. Government Printing Office.

Ragsdale, K.E. (1994). The development of an articulated design to facilitate entry of emergency medical technician-paramedics into the nursing profession. Unpublished Major applied research project. Nova Southeastern University, Ft. Lauderdale.

Recrafting the business of schooling. (1993). Washington, DC: National Alliance of Business.

Reich, R. (1991). The work of nations: Preparing ourselves for 21st century capitalism. New York: Knopf.

Report of the panel on secondary vocational education. (1989). Trenton, NJ: NJ State Department of Education.

Restructuring Arizona's Universities (1993). Phoenix, AZ: Center for the Study of Higher Education.

Ricart, G. Connecting the networking dots. EDUCOM, 28(5), 36-41.

Rockfellow, J.D. (1994, January-February). Wild cards: Preparing for "The Big One." The Futurist, (28)1: 14-19.

Roe, M.A. (1989). Education and U.S. competitiveness: The community college role. Austin, TX: IC2 Institute, The University of Texas at Austin.

Roueche, J.E., and Baker, G.A. (1986). Profiling excellence in America's schools. Arlington, VA: American Association of School Administrators.

Roueche, J.E., and Baker, G.A. (1987). Access and excellence. Washington, DC: The American Association of Community and Technical Colleges.

Russell, A.B. (1992). Faculty Workload: State and System Perspective. Denver, CO: State Higher Education Executive Officers.

Samuelson, R.J. (1991). "A Shakeout in Services." Newsweek, CXVIII, pp. 64-65.

Satterlee, B.C. (1991). The development, implementation, and evaluation of a model for the review of associate of science degree programs. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Schultz, L. (1992). The revision of a leadership and management curriculum to incorporate total quality management/leadership concepts for United States Navy Supply Corps officers. Unpublished practicum report in human resources development. Nova University, Fort Lauderdale.

Schultz, P.A. (1994). The development, implementation, and evaluation of a plan to revitalize the administrative assistant curriculum at Villa Julie College. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Schwartzkopf, L. (1993). A child-centered full-service school. Vision and action plan papers written for Leadership II. (see Groff, 1993c).

Science for all Americans. (1991). Washington, DC: American Association for the Advancement of Science.

Secretary's Commission on Achieving Necessary Skills. (1991)

What work requires of school. Washington, DC: U.S. Department of Labor.

Secretary's Commission on Achieving Necessary Skills. (1992)

Learning a living: A blueprint for high performance. Washington, DC: U.S. Department of Labor.

Shuman, B.A. (1989). The library of the future. Englewood, CO: Libraries Unlimited, Inc.

Silvertsen, M.L. (1993). Transforming ideas for teaching and learning science. Washington, DC: U.S. Government Printing Office.

Simpson-Ussery, S. (1993). The development of a comprehensive inmate-specific curriculum model. Unpublished major applied research project. Nova University, Ft. Lauderdale.

Sheu, Y.C. (1985). The development of vocational industrial education in the Republic of China, Taiwan.

Spady, W.G., and Marx G. (1984). Excellence in our schools: Making it happen. San Francisco: Far West Laboratory.

Spady, W.G. (1982). Outcomes-based instructional management: A sociological perspective. The Australian Journal of Education, (26)2, 123-143.

Spady, W.G., and Marshall, K. (1991). Beyond traditional outcome-based education. Educational Leadership.

Stasz, C., Ramsey, K., Eden, R., DaVanzo, J., Farris, H., and Matthew, L. (1993). Classrooms that work: teaching generic skills in academic and vocational settings. Santa Monica, CA: RAND.

State Higher Education Executive Officers (1993). The Tuition Dilemma - State Policies and Practices in Pricing Public Higher Education. Denver, CO: SHEEO.

Strategies (1993, Summer). Iowa City, IA: Noel-Levitz Centers, Inc.

Stripling, B.K. (1992). Libraries for the national goals. Syracuse, NY: ERIC Clearinghouse on Information Resource.

Success for all in a new century. (1989). Washington, DC: The Council of Chief State School Officers.

Superschools: Education in the information age and beyond. (1993). Hoffman Estates, IL: Ameritech.

Tech prep products. (1993). Berkeley, CA: The National Center for Research in Vocational Education.

Technology education in Pennsylvania program guide, K-12. (1993). Harrisburg, PA: Department of Education.

Telegate as part of ABB corporate network (1993). REACHING OUT (4), pp. 11-15.

The Forgotten half: Pathways to success for America's youth and families. (1988). Washington, DC: The William R. Grant Foundation Commission on Work, Family, and Citizenship.

The Lehigh Valley business-education partnership. (1991). Allentown, PA: Air Products and Chemicals, Inc.

The quality revolution - and beyond. (1991). Cambridge, MA: Arthur D. Little, Inc.

The school of the twenty-first century. (1990). New Haven, CT: The Bush Center in Child Development and Social Policy, Yale University.

Toch, T. (1991, August). Crafting the workforce. U.S. News & World Report, pp. 63-64.

BEST COPY AVAILABLE

Toch, T. (1993, January). The perfect school. U.S. News & World Report.

Together we can: A guide for crafting a profamily system of education and human services (1993). Washington, DC: U.S. Department of Education and U.S. Department of Health and Human Services.

Toner, M. (1992, August). Drug-resistant pneumonia, 'superclap' alarms doctors. The Commercial Appeal, p. A-12.

Tsai, N,C. (1993). A strategic plan for nontraditional, off-campus, bachelor's degree-completion programs at the World College of Journalism and Communication. Unpublished major applied research project, Nova University, Ft. Lauderdale.

U.S. Congress, Office of Technology Assessment. (1988). Power on! New tools for teaching and learning. (OTA-SET-379). Washington, DC: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment. (1988). Informing the nation: Federal information in an electronic age. (OTA-CIT-397). Washington, DC: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment. (1989). Linking for learning: A new course for education. (OTA-SET-439). Washington, DC: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment. (1990). Critical connections: Communication for the future. (OTA-CIT-408). Washington, DC: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment. (1993). Adult literacy and new technologies:Tools for a lifetime. (OTA-SET-550). Washington, DC: U.S. Government Printing Office.

U.S. Congress, Office of Technology Assessment (1993). Making government work: Electronic delivery of services. Washington, DC: U.S. Government Printing Office.

U.S. technology policy (1990). Washington, DC: Office of Science and Technology Policy.

Van de Ven, A.H. (1976). On the nature, formation, and maintenance of relations among organizations. Academy of Management Review, 1, pp. 24-36.

BEST COPY AVAILABLE

Vocational-technical education: Major reforms and debates 1917 - present (1973). Washington, DC: U.S. Department of Education.

Wagman, R. (1992, May). The real new world order. The Commercial Appeal, p. A-10.

Watkins, B.T. (October 20, 1993). Putting New Mexico on Line. The Chronicle of Higher Education A28-A29.

Weber, J. (October, 1992). Hot spots. Business Week, 3288, 80-88.

What it takes: Structuring interagency partnerships to connect children and families with comprehensive services. (1991). Washington, DC: The William R. Grant Foundation Commission on Work, Family, and Citizenship.

Whittle schools and laboratories (1991). Knoxville, TN: Whittle Communications.

Wiggenhorn, W. (1990). Motorola U: When training becomes an education. Harvard Business Review, 90(4), 71-83.

Wired for learning. (1991). U.S. New & World Report, 111, pp. 76-79.

Wriston, W.B. (1988). Risk and other four-letter words. NY: Perennial Library.

Wriston, W.B. (1992). The twilight of sovereignty: How the information revolution is transforming our world. New York, NY: Charles Scribner & Sons.

Yff, J., and Butler, M.J. (1983). Technological literacy: Challenge for teacher education. (Report No. SP 021 725). Washington, DC: ERIC Clearinghouse for Teacher Education, American Association of Colleges for Teacher Education.

Ziegler, K. (1992). Developing a total quality learning environment. In Toward the 21st century: Preparing strategic thinkers in vocational, technical, and occupational education for building learning communities. (ERIC Document Reproduction Service No. ED 351 499).

Ziemba, S. (1990). Total quality management resource bibliography. Haverhill, MA: Northern Essex Community College.

> What is not yet done
> is only what we have not yet attempted to do.
> -- DeTocqueville

APPENDIXES

A. Welcome Letter, Instructions and Assignments, and Supplemental Memoranda
B. Instructional Support and Related Materials
C. Development of a Vision for Communications in a Total Quality Training Facility, Fleet Training Center, San Diego - Gail J. Palmisano
D. Development of a Video Training Model to Increase Realiability of Neonatal Instructor Grading at Crafton Hills College - Arnold L. Kosmatka

* * * * * * * * * *

A "Third Wave" Electronic College

Judith W. Leslie uses Toffler's The Third Wave to develop an educational institution in an advanced technical era dominated primarily by electronic media.

> This methodology would allow the learner to proceed at his/her own rate and style, within his/her own time period, at his/her desired location, drawing upon learning materials from throughout the country and the world. Computer science and electronics courses and programs of study would be an integral part of the curriculum. Faculty would be cross-trained in a variety of disciplines and teaching styles. They would have flexible work schedules and loads and might share an assignment with a spouse or colleague. Many faculty would instruct from their home or electronic cottage....
>
> Judith W. Leslie. "As The Third Wave Approaches Higher Education: Planning For the Electronic Institution," CAUSE/EFFECT, January 1981, Vol. 4, No. 1, p. 15.

TO: Students in the Orange County Cluster

FROM: Warren H. Groff

RE: Human Resources Development (HRD) Seminar

DATE: February 1994

It is with a great deal of anticipation that I write to you about the HRD seminar. I am exceedingly pleased that we will be working together on a series of learning activities that will be challenging, exciting, and relevant to you. I will do my best to make it a very rewarding experience.

We are privileged to live during an extraordinary time -- the turning of an era. The world is passing from an industrial era to a technical era based on rapid generation and use of information. The key economic resources will no longer be raw material extracted from earth and unskilled and semiskilled labor. The essential resources are information and knowledge used by individuals.

Human Resources Development (HRD) is concerned with the people in an organization, as opposed to structure, plant, or other aspects. HRD encompasses effective approaches to human resources planning, utilization, and nurturing. HRD includes the development of conceptual, interpersonal, and technical competencies and skills to effectively contribute to mission, vision, culture, and specific functional areas.

The conceptual framework for HRD is (1) analysis, (2) vision and (3) action plan. The specific assignments for this three part conceptual framework are described on the attached "Instructions and Assignments for HRD." Following the analysis (audit) of HRD in your work context, you will select an HRD project and create a preferred scenario (paper #2) and an action plan (paper #3).

We will discuss ideas for practicum proposals which could lead to ideas for Major Applied Research Projects (MARPs).

A list of "Sources of Information" is attached.

Attached are several ERIC Document Resumes which contain a great deal of information and examples of student work.

I really look forward to working with you so that you have an extremely rewarding experience in our program.

Instructions and Assignments for Human Resources Development

The purpose of this document is to provide instructions and assignments for the Human Resources Development Seminar. The first date on which we will meet is April 9, 1994.

Research indicates that most change is attributable to human resources who use technology. Research about HRD indicates that a leader must (1) analyze strengths and weakness of the existing context, (2) develop a vision of the future, and (3) specify an action plan. These three activities are the conceptual framwork of the HRD seminar.

Each student should read the Study Guide, textbook, and primary references before starting the first assignment.

Assignment #1. Analyze the strengths and weaknesses relative to HRD of the context in which you work. You should state the mission and describe the functions of your establishment and then discuss the philosophy and policies that deal with HRD. You could analyze your establishment's strategic plan and the extent to which HRD is a part of the plan. You could analyze HRD programs and activities. (See attached list). You could analyze human behavior within the establishment. Relate theory and research with practice.

The body of your paper shall not exceed ten (10) type written, double spaced pages excluding title page (see attached), table of contents, charts, tables, references, and appendices. The paper must be in my possession by Friday, April 1, 1994, so I can review the assignments before our first meeting. Use the Publication Manual of the American Psychological Association and the PHE Guidelines. Staple your paper in the upper left corner. Do not use binders or folders. These specifications apply to all papers. Please send a Vita or Resume with the first paper. Use mail that does not require my signature. Mail your paper to Warren H. Groff, 1531 Peabody Avenue, Memphis, TN 38104. (901)-725-5287. My e-mail code is groffw.

Because students can learn a great deal from an analysis of other contexts, each person will make a brief presentation of no more than five minutes about the context in which s/he works. Handouts and a visual or two would be most appropriate. We will discuss significant concepts and their implications. I will set the stage for the second learning experience and meeting.

Assignment #2. Create a vision of the future and a preferred scenario for an HRD project of interest to you. Strategic thinking should produce a long-term vision of the future based on an analysis of alternative scenarios and the specification of a preferred scenario. The vision of the 1990s should be based on an analysis of a broad range of demographic, social, economic, technological, and political variables. A project could be content-centered or process-centered but should focus on some HRD activity for which you have some responsibility. For example, perhaps you have responsibility for writing across the curriculum, a comprehensive learning center, or student learning outcomes assessment. What is your vision of the future and your preferred scenario based on HRD internal strengths and weaknesses and external opportunities and threats? What are the HRD requirements to achieve the preferred scenario?

Assignment #3. Develop a multi-year action plan for HRD for your project. What conceptual, human relations, and technical skills should people acquire to improve quality?

Each person will make a brief five minute presentation during the morning session. You shall distribute a copy of your multiyear action plan. We will synthesize significant concepts and their implications. I will give the final examination required of core seminars and we will discuss ideas for a practicum in HRD.

The Nova University field-based docotral programs are intended to produce agents of change. If you know someone who is interested in pursuing a field-based practitioner doctoral program, feel free to invite her/him to class.

Documents You May Find Of Interest

ED 272 772 Perspectives on the Education and Training System of the Future. Paper written for ERIC Clearinghouse at The Ohio State University.

ED 280 538 The Learning Community of the Future: Education and Training in the 21st Century. Paper presented to the Commission on the Future of Community Colleges of the Am. Assoc. of Community and Junior Colleges, April 24, 1987.

ED 287 347 The Independent Learner: The Key Characteristic in Transformation Leadership. Paper presented at the Fifteenth Annual Summer Institute for Higher Education Programs for Nova University, July 27, 1987.

ED 335 519 Toward the 21st Century: Preparing Strategic Thinkers in VTO Education for Restructuring Establishments.

Community College Futures: From Rhetoric To Reality edited by Neal A. Norris. Stillwater, OK: New Forums Press, 1989.

ED 343 484 Restructuring for the 90's...And Beyond: The Era of Smart Homes, Wired Communities, Fast Systems, Global Networks, and Fast Forward Learners in a Borderless World.

HUMAN RESOURCES DEVELOPMENT AUDIT

5 4 3 2 1 0

Mission Statement
Philosophy About Service Establishment
Vision Statement

Policy Manual
Philosophy About HRD
Hiring
Promotion
Tenure
Leaves
Academic Freedom
Professional Development
Performance Appraisal
Recognition and Reward Structure
Termination
Retrenchment
Due Process

Handbooks
Faculty
Staff
Student

Professional Development Programs
Faculty
Administrators
Professional Staff
Classified Staff

Organizational Development
(Plan with or plan for and to)
Strategic Plan
Operational Plan
HRD Plan
Planning Process

HRD for Specific Priorities
Remedial and Developmental Services
Community Outreach
Disabled and Handicapped

Budget Allocation

Key:

5	Outstanding
4	Excellent
3	Good
2	Fair
1	Poor
0	Not applicable

EXAMINATION OF RETENTION, ATTENUATION AND PERSISTENCE IN THE PERU UNIVERSITY CENTER FOR ADVANCED LEARNING

Seminar Title

by

John R. Rastin, M. S.

Tibet University

National Lecturer

Cluster Location

A seminar paper presented to Nova University in
partial fulfillment of the requirements for the
degree of Doctor of Education

Nova University

August, 1990

SOURCES OF INFORMATION

The Nat. Council for Staff, Program and Org. Dev.(NCSOD)
Community College Leadership Program
The University of Texas at Austin, EDB 348
Austin TX 78712 512-471-7545

National Staff Development Council
P.O. Box 240
Oxford, OH 45056 800-727-7288

Pew Health Commission
3101 Petty Road, Suite 1106
Durham, NC 27707 919-489-5907
Healthy America: Practitioners for 2005 A Beginning
Dialogue for U.S. Schools of Allied Health.

National Center on the Educational Quality of the Workforce
4200 Pine Street, The Univesity of Pennsylvania
Philadelphia, Pennsylvania 19104-4090 215-898-4585

National Tech Prep Clearinghouse of Resources
East Central Curriculum Coordination Center
Sangamon State University, F-2
Springfield, IL 62794-9243 217-786-6375

American Society for Quality Control
611 East Wisconsin Avenue
Milwaukee, WI 53202 800-248-1946
ASQC is doing a great deal of work with ISO 9000 standards.

National Center on Education and the Economy
39 State Street, Suite 500
Rochester, New York 14614 716-546-7620

Center on Education and Training for Employment and the
ERIC Clearninghouse on Adult, Career, & Vocational Education
The Ohio State University, 1900 Kenny Road
Columbus, Ohio 43210-1090 800-848-4815

National Center for Research in Vocational Education
University of California at Berkeley
2150 Shattuck Avenue, Suite 600
Berkeley, CA 94704-1306 415-642-4004

New American Schools Development Corporation
1000 Wilson Boulevard, Suite 2710
Arlington, VA 22209 703-908-9500

The Center for Occupational Research and Development (CORD)
and National Coalition of Advanced Technology Centers
and National TechPrep Network
601-C Lake Air Drive
Waco, TX 76710 800-772-8756

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DOCUMENT RESUME

ED 359 412 CE 064 076

AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities. Human Resource Development.
PUB DATE	93
NOTE	200p.
PUB TYPE	Information Analyses (070) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC08 Plus Postage.
DESCRIPTORS	Adult Education; Curriculum Development; Developmental Programs; *Educational Change; Educational Development; Elementary School Curriculum; Higher Education; *Human Resources; *Labor Force Development; Lifelong Learning; Mathematics; *Nontraditional Education; Nursing; Program Development; *Strategic Planning; Technological Advancement; Vocational Education
IDENTIFIERS	*Nova University FL; *Total Quality Management

ABSTRACT

This package includes a description of Nova University's Human Resource Development (HRD) core seminar and seven doctoral student papers. The description (by Warren Groff) explains how a major curriculum change was made to convert the vocational, technical, and occupational specialization seminar, Personnel-Human Resources Development, to the core seminar, Human Resources Development (HRD). The conceptual framework for the HRD core seminar involved an audit of HRD within the student's work context, a vision of a strategic direction and preferred scenario for an area of responsibility within each student's work context, and creation of a multiyear HRD action plan. An important issue for the Ed.D. Programs for Higher Education was seen to be assembling the critical mass of HRD Systems Engineers who would design and implement forms of alternative education that would produce a critical mass of high performance learners and leaders who could create learning communities in an advanced technical era. Appendixes include 24 references and the 7 student papers: "An Analysis of Governance Structure of the Amarillo Hospital District and Northwest Texas Hospital" (Richard Pullen); "Strategic Planning: Delivery of Quality Care through Nursing's Commitment to Quality Improvement" (Pullen); "Goals: Implementation of a Program to Enhance Nursing Commitment to Total Quality Improvement at NTH" (Pullen); "An Analysis of Human Resource Development at Arkansas Technical University" (Kathryn D. Pearson); "A New Vision for Elementary School Mathematics at Arkansas Tech University" (Pearson); "The Restructuring of Developmental Mathematics at Arkansas Tech University" (Pearson); and "Vision 2000: A Pedagogy Shift--Critical Thinking and Caring. Strategic Human Resource Development Plan for Restructuring Nursing Department Curriculum, Southwest Missouri State University, West Plains Campus" (Juanita J. Roth). (YLB)

DOCUMENT RESUME

ED 351 499 CE 062 261

AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Strategic Thinkers in Vocational, Technical, and Occupational Education for Building Learning Communities.
PUB DATE	92
NOTE	234p.; For related documents, see ED 272 247, ED 290 860, ED 319 882, and ED 335 519.
PUB TYPE	Reports - Research/Technical (143) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC10 Plus Postage.
DESCRIPTORS	*College Faculty; *Community Colleges; Critical Thinking; Distance Education; Futures (of Society); Labor Force Development; Lifelong Learning; *Nontraditional Education; *Productive Thinking; Seminars; Strategic Planning; Summer Programs; *Teacher Education; Two Year Colleges; *Vocational Education
IDENTIFIERS	Nova University FL

ABSTRACT

The 1992 component of Emergence of Vocational, Technical, and Occupational Education (E-VTO) focused on preparing strategic thinkers in vocational, technical, and occupational education (VTO) for building learning communities. The E-VTO seminar was one of the two seminars that comprised the VTO specialization of Nova University's doctoral program to prepare community college personnel. The seminar was offered during the Summer Institute. Students were provided with a study guide and two textbooks in the spring. They were expected to complete a learning contract, two assignments, and a paper before the Summer Institute. The Summer Institute included an opening speech that provided an overview and 10 structured roundtable discussions conducted by faculty on such topics as "Rethinking, Restructuring, Revitalizing." Concentrations in technology education and computer studies were planned for 1992-93. A concurrent Summer Institute theme session was "Developmental Tasks toward the 21st Century: Learning Communities of the Future," which focused on developmental tasks for Nova Communiversity II. Students at the Summer Institute developed "learning community" action plans which were presented at the closing session. Much of the "Rethinking, Restructuring, Revitalizing" discussion is summarized; handouts are provided. Appendixes include 24 references and correspondence and memos sent to students. The following seminar papers prepared by Summer Institute students are included: "The Emergence of the Technical Society," "Improving Postsecondary Vocational Education," "Intellectual Capital Formation, Technology and Distance Education," and "Developing a Three-Year Student-Success Program for International Students" (Donna Smith); "Refocusing of the Educational Process in Health Occupations at Sarasota County Technical Institute" (Deborrah Metheny); "Developing a Total Quality Learning Environment" (Karen Ziegler); and "Development, Implementation, and Evaluation of a Model for the Review of Associate in Science Degree Programs" (Brian Satterlee). (YLB)

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DOCUMENT RESUME

ED 335 519	CE 058 736
AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Strategic Thinkers in Vocational, Technical, and Occupational Education for Restructuring Establishments.
PUB DATE	Aug 91
NOTE	299p.; For related documents, see ED 272 247, ED 290 860, and ED 319 882.
PUB TYPE	Reports - Research/Technical (143) -- Information Analyses (070)
EDRS PRICE	MF01/PC12 Plus Postage.
DESCRIPTORS	Change Strategies; *College Faculty; Community Colleges; Critical Thinking; Doctoral Degrees; *Doctoral Programs; Higher Education; Industrialization; Institutes (Training Programs); *Labor Force Development; Leaders; *Leadership Training; Program Development; Program Implementation; *Seminars; Student Research; Technical Education; Two Year Colleges; *Vocational Education
IDENTIFIERS	Nova University FL; *Strategic Planning

ABSTRACT

This report describes how Nova University started the Ed.D. Programs for Higher Education with a focus on preparing community college personnel. The Vocational, Technical, and Occupational Education (VTO) specialization consisted of two seminars: Personnel--Human Resources Development (P-HRD) and Emergence of VTO. The program focused on preparing transformational leaders who think strategically about fundamental restructuring of establishments created in the industrial era. The seminars were offered in a format linked to the Summer Institute (SI). Students received materials and completed assignments prior to the SI, participated in SI activities that consisted of a theme and specialization sessions, and produced a synthesis paper. Related activities included workshops and practica. Following the eight-page report are these appendixes: (1) P-HRD materials, including a resource manual with readings, practicum and research project ideas, proposal development and evaluation protocols, and sources of information; (2) E-VTO materials; (3) titles of VTO and HRD practica undertaken as related activities; and (4) materials from the "Leadership for Innovation and Change" workshop. A postscript provides information on the author. The following student seminar papers by Polly Schultz are provided: "Redesign of the Education System"; "The Emergence of the Technical Society"; "Studies about Education"; Intellectual Capital Formation"; "Relevant VTO Materials"; and "Intrapreneurship in Postsecondary Education." (YLB)

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DOCUMENT RESUME

ED 343 484 HE 025 347

AUTHOR Groff, Warren H.

TITLE Restructuring for the 90's...And Beyond. The Era of Smart Homes, Wired Communities, Fast Systems, Global Networks, and Fast Forward Learners in a Borderless World.

PUB DATE Sep 91

NOTE 31p.; Paper presented at the Fall Conference of the Council of North Central Community and Junior Colleges (Little Rock, AR, September 16-17, 1991).

PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Developing Institutions; Economic Change; Educational Change; *Futures (of Society); *Higher Education; *Information Networks; Institutional Mission; Institutional Role; *Leadership; Leadership Qualities; *Long Range Planning; Organizational Objectives; *School Restructuring; Social Change; Sociocultural Patterns

ABSTRACT

This paper examines institutional restructuring in higher education for the 1990s and the 21st century and the leadership required for that restructuring. Following an overview and a discussion of selected pertinent demographic, social, economic, technological, and political variables, the paper focuses on the strategic importance of Mid-America to changes occurring in Eastern and Western Europe and the newly industrialized countries of the Pacific Rim. There follows a discussion of the learning enterprise in the schools and colleges of the United States. This is a prelude to a review of an agenda for the 1990s which recommends: (1) analysis of conditions of society and establishments; (2) transforming trend analyses into action plans; (3) development of leadership and human resources; and (4) emphasizing integrity within the learning enterprise. This agenda could lead, it is argued, to the creation of an infrastructure for developing world class information era learning communities. A description of such institutions covers leadership qualities and role, planning for quality technology, and the relationship of society, work and education. Also included are 43 footnotes and citations of 3 other documents. (Author/JB)

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DOCUMENT RESUME

ED 357 829 PS 021 183

AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities through Multi-Technology. Leadership I Formative Evaluation of Cluster 54.
PUB DATE	93
NOTE	174p.; For a related document, see ED 352 126.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Curriculum Design; *Doctoral Programs; Early Childhood Education; *Educational Technology; Electronic Mail; Higher Education; Human Resources; *Labor Force Development; *Leadership; Program Descriptions; *Telecommunications
IDENTIFIERS	*Technology Utilization

ABSTRACT

This paper presents a description and formative evaluation of National (Multi-Tech) Cluster III, Nova University's third technology-intensive doctoral program in Child and Youth Studies (CYS) in which formal instruction occurs in clusters, or groups of professionals in different geographic locations who are connected via electronic communications technology. National clusters focus on understanding the basic concepts of leadership theory and research and applying these concepts to problems in a professional context. Following a brief introduction, a description of the preliminary planning for the technology delivery system used in the doctoral program is offered. Program development is discussed, an introduction to the telecommunications used in the program is presented, and the Leadership I course is described. The course uses technological aids, such as electronic classrooms, to explore: (1) societal problems and issues; (2) leadership theory and practice; and (3) organizational, personal, and professional development. The paper concludes with a discussion of a conceptual framework for human resources development, emphasizing the advantages of multi-tech learning. Appendices include copies of instructions and memos to students in National Cluster III; materials from electronic classrooms: and examples of outstanding work by two students (Daniel R. Hayes and Deborah W. Whaley). The students' papers and other materials comprise the bulk of the document. (MM)

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DOCUMENT RESUME

ED 352 126 PS 020 876

AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities. Leadership II Formative Evaluation of Cluster 37, October 14, 1989 through June 6, 1992.
INSTITUTION	Nova Univ., Fort Lauderdale, Fla.
PUB DATE	92
NOTE	148p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Course Descriptions; *Doctoral Programs; Elementary Secondary Education; Higher Education; *Leadership; Nontraditional Education; *Professional Development; Program Descriptions; Seminars
IDENTIFIERS	*Nova University FL

ABSTRACT

Nova University is a nontraditional university that offers practitioner-oriented, field-based doctoral programs, including a program in child and youth studies. This program begins with a seminar called Leadership I, and ends 3 years later with a Leadership II seminar. Instruction takes place in clusters, or groups of professionals in a geographic area. This paper describes of offering of Leadership I and II to a cluster of students between 1989 and 1992. Leadership I introduced concepts of leadership theory and research and strategic planning. Students designed a 3-year plan for their professional development, maintained a diary, and identified issues relevant to social problems. Leadership I examined leadership at the levels of self, organization, and society, and the three leadership activities of analysis, envisioning the future, and transforming visions into action. In the Leadership II seminar held 3 years later, students' professional development plans were reviewed, and visions and plans for future projects were developed. Appendices include various materials relevant to the leadership seminars, education in general, and Nova University. (BC)

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* from the original document. *
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ERIC Documents

ED 186 060	Higher Education As A Catalyst to the Local Economy
ED 188 655	Planning Technical Education for the Eighties
ED 190 168	Human Resources Development in Technical Education
ED 190 179	A Model to Evaluate the Extent to Which Goals are Reached
ED 197 779	Environmental Trend Analysis & Strategic Decisions
ED 200 711	Trend Analysis as a Component of Comprehensive Planning
ED 201 030	Key Data Elements in a PME Syllogistic Model
ED 201 295	Key External Data in Strategic Decision Making
ED 201 343	Market Analysis. What Is It? How Does It Fit Into...?
ED 201 357	Technical Ed As A Catalyst: Retraining & Collaboration
ED 202 498	Shaping Society through Outcomes: Measuring Output
ED 212 946	Preparing Proactive Transformational Leaders, Cluster #34
ED 213 446	Strategic Planning: A New Role for Mg Info Systems
ED 214 555	Statewide Coordination in Technology Transfer
ED 216 654	Strategic Planning: Matching Ext Assess with Int Audit
ED 217 907	Strategic Planning of Technology Transfer
ED 218 993	Entrepreneurship through Strategic PME
ED 219 007	Building Futurism into the Institution's SP and HRD
ED 221 249	Strategic Planning for Community Services & Continuing Ed
ED 223 273	Computer Literacy: Data & Info Processing as the Core
ED 227 888	Utilizing R & D Products in SP and HRD
ED 229 591	Econ & Soc Impact of Tran from Industrial to Info Society
ED 231 453	Assisting a College's Service Area in the Transition....
ED 233 651	Strategic Planning & Mg for the Third Wave
ED 236 394	Strategic Planning for Economic Development
ED 237 129	SP & Mg for Voc-Tech Ed at the Community College Level
ED 244 668	Quality Education. What Is It? (Nova #5)
ED 247 822	Strategic Planning for Economic Development
ED 259 804	Institutional Advance & Role of Resource Dev Office (NCRD)
ED 267 665	Snowmass Institute Report, 1985
ED 272 247	Preparing Agents of Change in Voc-Tech-Occup Ed, 1984-85
ED 271 184	Leadership: Vision & Sturcture (NCRD)
ED 272 772	Perspectives on the Education & Tr System of the Future
ED 280 538	The Learning Community of the Future: Ed & Tr in 21st (AACJC)
ED 287 347	Independent Learner: Key Characteristic In Trans Ldr, 1987
ED 290 860	Preparing Transformational Leaders in VTO, 1986-87
ED 298 977	Achieving Excellence Through SP, Smowmass Report, 1988
ED 313 946	Toward 21st Century: Preparing Proactive Trans Ldr, 1989
ED 319 882	Toward 21st Century: Prep Strategic Thinkers in VTO, 1988-89
ED 327 117	Preparing Strategic Thinkers in Grad & Postgrad Education
ED 327 118	Preparing Visionary Proactive Transformational Ldrs 34,37,38
ED 327 651	High Tech-High Touch Collaboration in Helping the United States to Develop "Learning Communities of the Future."
ED 335 519	Toward the 21st Century: Preparing Strategic Thinkers in Vocational, Technical, and Occupational Education for Restructuring Establishments 1991
ED 343 484	Restructuring for the 90's...And Beyond 1992

EJ 212 639	Data as an Institutional Resource in a PME System
EJ 242 674	Key External Data Required in Strategic Decision Making
EJ 280 495	Strategic Planning of Technology Transfer
EJ 293 632	Strategic Planning - Jossey-Bass New Directions
EJ 295 399	Data Processing in the Post-Ind, Tech, Info Society, CAUSE
EJ 298 509	Education's Future Faces Four Great Challenges
EJ 312 404	Critical Mass: Education and the Economy

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WARREN H. GROFF

Warren Groff is a consultant and a national lecturer for Nova University. He taught in the public schools in Pennsylvania, served as an Assistant Dean in the College of Education at Temple University and taught doctoral seminars in higher education, consulted for the American Board of Pediatrics and the Governor's Justice Commission of Pennsylvania, served as Vice President for Academic Affairs at a private college, was the executive director of a consortium involving a medical college and two universities, served as Vice President for Academic Affairs for seven years and then director of research and development at North Central Technical College in Mansfield, Ohio, and was Dean of Academic Affairs at Shelby State Community College in Memphis, TN.

He has written extensively on the topics of leadership, human resources development, strategic planning, and economic development. He chaired the statewide Task Force on High Technology for the Chancellor of the Ohio Board of Regents in 1982-83 and also served on the OBR Telecommunications Committee. From 1976 to 1986, he chaired the Plan Development Committee of an eight county health systems agency and also served as Vice President of the 45 member Board of Directors from 1984 to 1986. In 1984, he chaired a 44 member Consolidation Committee for School Improvement for the Board of Education for the Mansfield City Schools. He served as president of the College of Education Alumni Society of Pennsylvania State University from July 1984 through June 1986.

He has been one of the two faculty of the week-long Snowmass Institutes on Strategic Planning for eleven years, 1980-1991. He has conducted workshops on strategic planning for the Massachusetts Board of Regents; Tennessee Board of Regents; Directors of Research, Planning, and Development of the Vocational, Technical, and Adult Education Districts in Wisconsin, Texas Association of Chief Community College Student Affairs Administrators; and the Nebraska Community College Association. He consulted with the National Center for Research in Vocational Education on selected projects. Groff assisted a hospital in a year-long strategic planning process and has conducted several strategic planning workshops for school boards associations. He was the keynote speaker at the fall 1991 Conference of the Council of North Central Community and Junior Colleges on "Restructuring for the 90's and Beyond." He was the keynote speaker at the 1991 Vocational Education Symposium in Taiwan, Republic of China; he helped to facilitate a strategic planning workshop and spoke again in Taiwan in 1991. He is quoted in Building Scenarios for Southeast Asia: The Seameo Innotech Experience (1993).

He was keynote speaker on the topic "Developing an Environment for Solution-Based Learning" at the 1993 annual meeting of the Mid-America Conference on Competency-Based Education and Training. He was a work group moderator on organizational barriers at the National Summit on Integration and Tech Prep sponsored by The National Center for Research in Vocational Education in June 1993.

Groff has taught 86 doctoral seminars to over 1620 students throughout the U.S. for Nova University. He has taught Human Resources Development, Governance and Management, and Emergence of Vocational, Technical and Occupational Programs in the Ed.D. Programs in Higher Education. The cycles in vocational, technical, and occupational education were Agents of Change, 1984-85, ED 272 247; Transformational Leaders, 1986-87,ED 190 860; Strategic Thinkers, 1988-89, ED 319 882; Restructuring Establishments, 1990-91, ED 335 519, Building Learning Communities, 1992, ED 352 126. He taught Political Processes and Social Issues in the Ed.D. Program in Early and Middle Childhood. He teaches Leadership I and II in the Ed.D Program in Child and Youth Studies. Leadership I begins the program and Leadership II concludes the three-year program. He has started 12 clusters with Leadership I, including 5 National Clusters in a multi-tech format. Several clusters have concluded the program with Leadership II. (ED 352 126)

He conducted strategic planning workshops for the Office of Substance Abuse Prevention of the U.S. Department of Health and Human Services and has provided technical assistance to twenty Building Community Partnership grantees.

Groff graduated from Millersville University with a B.S. in Ed., from The Pennsylvania State University with an M.Ed., and from Temple University with an Ed.D.

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Evolutions in Technology

by Elizabeth Greenfield

Evolution of the Textbook: From Print to Multimedia

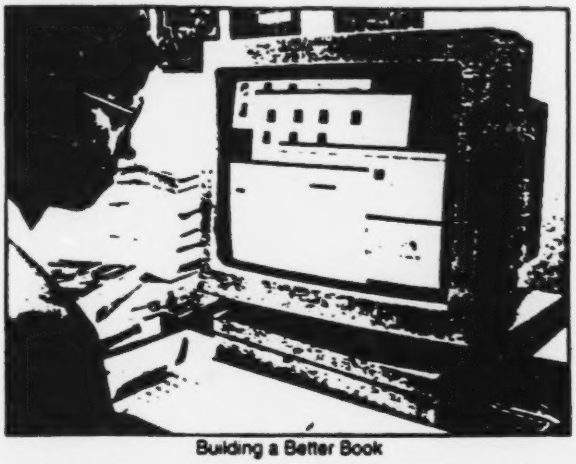
Education has relied on printed textbooks as the primary vehicle for disseminating information to students for hundreds of years. But the information age has transformed the way education defines the word "textbook." Just as new pedagogical methods emphasize more hands-on instruction and less rote learning, textbooks are also changing; print is not the only curriculum resource available to today's teachers.

Many are seeing the need to merge the old with the new. A popular addition is the software and textbook bundle. Applicable for many disciplines, combinations offer textual instruction and exercises, plus software that dynamically presents information in a relevant electronic medium. For example, business-oriented combinations present textual accounting principles and corresponding spreadsheet problems.

The advent of multimedia has further expanded the curriculum grab bag. But multimedia's impact extends beyond mere add-on products. Of particular note are videodisc and software curricula that are recognized as the next step in the textbook food chain.

Universities, colleges and even districts are realizing the benefits of another textbook permutation, custom publishing. Rather than making students purchase three or four texts for a few chapters' relevancy, instructors often opt to create their own books. Many have personal materials and other documents copied and bound together in mass quantities as a textbook option, also known as "the Kinkos phenomenon."

Or instructors can investigate electronic publishing, where an online database of textbooks can be searched and chapters culled to create one unique book. Lastly, some instructors are choosing to put their materials online, allowing students to access all pertinent information—notes, syllabi, articles, etc. —then save those materials to a disk for use at home or on campus.



Building a Better Book

■ Textbook/Software Bundles

The first evolutionary phase for the textbook is the hardcopy/software bundle. Combining the two serves many purposes: It adds a multimedia element that most educators agree improves retention and engages students, plus adds a "real-life" immediacy for students. Working with spreadsheet and database software while studying accounting, or using math and engineering simulation packages to complete exercises also gives students hands-on experience with these tools, which they will use when employed.

Increasingly, textbook publishers and software developers work hand-in-hand to coordinate the two. Student editions of popular, mature programs, plus run-time versions and custom templates are all examples of software bundled with specific texts.

Textbook publishers like The Benjamin/Cummings Publishing Co. offer such bundles. That company has agreements with several software publishers to custom-bundle any of 15 packages with teacher-requested textbooks. Lotus 1-2-3, AutoCAD, FrameWork, PageMaker and dBase are all popular programs that can be shipped with any text.

Recently acquired by The Thompson Corp., Course Technology, Inc. (CTI) also integrates commercial software with academically authored textbooks and companion tutorial files. CTI has licensing agreements with eight software companies—Lotus Development Corp., Borland International, Microsoft and SYSTAT to name a few—giving CTI the right to package their programs with its course materials.

To date 35 products are available, covering accounting, business, computer information systems and statistics. Lotus 1-2-3 for Business is an example of one course offered by the company.

Knowledge Revolution, the developers of Interactive Physics, a motion simulation authoring system, has agreements with Prentice-Hall to provide its run-time version—called Interactive Physics Player—with the publisher's texts. The firm also offers template files that directly correlate with problems in Saunders Publishing's *Physics* textbook. Students can run the templates with the low-cost student version of Interactive Physics.

The beauty of Knowledge Revolution's products is that not only is a given textbook problem presented onscreen, but students can push a button and see the exer-

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cise come to life. They can also change the parameters to observe how the laws of physics respond to slightly different circumstances.

Along those lines, Universal Technical Systems has taken the formulas covered in ten popular textbooks and converted them into templates that run with the developer's TK Solver software. The templates are bundled with the texts or offered separately. Examples include *Roark's Formulas for Stress and Strain* and *Formulas for Natural Frequency and Mode Shape*. In addition, four other titles are bundled with run-time versions of TK Solver.

> **"There will come a day when textbooks themselves will become obsolete."**

Other companies offer "electronic handbooks." MathSoft, Inc., for example, produces 18 Educational Handbooks that are teaching tools not directly correlated to a specific text, yet are written by instructors and target a specific topic. Each contains mathematical discussions followed by examples, interactive exercises and solutions; titles include Algebra I, Precalculus and Introductory to Ordinary Differential Equations. All Handbooks require Mathcad 3.1 or later.

An interesting twist, The MathWorks, Inc. has sponsored the publishing of texts written by instructors who use its MATLAB software. Some of these books are written for teacher use and others for students; many include a disk of supporting template files. Examples include *Matrix Theory with Applications* by Jack L. Goldberg, published by McGraw-Hill, and *Modern Control System Analysis and Design Using MATLAB* by Robert Bishop, from Addison-Wesley.

And to illustrate that software isn't the only technology that can be used concurrently with text, Prentice-Hall produces a teacher's edition of its *Magruder's American Government* textbook that includes customized lesson plans that link narrative to related video footage found on ABC News InterActive's Powers of the U.S. Government videodisc series.

■ Teaching Without the Book

There will come a day when textbooks themselves will become obsolete. A scary thought to some, since one CD-ROM can hold many books in a more compact and lightweight format. Computerized textbooks also offer sound, animation, hypertext links and all the other bells and whistles associated with multimedia.

For the purpose of this article, applicable products are those that stand-alone as full curriculum for a semester or year; self-paced, supplemental material or mini-course modules do not qualify. Products must also be utilized by all students in a specific discipline and grade level, not those applied to only special or remedial education, or basic skills instruction. ILSs are in a different class and also not covered.

So one further evolutionary level places the contents of a textbook on diskette or videodisc. Many states have already taken a few tentative steps in this direction, adopting videodisc and software curricula as textbook options. This allows schools to purchase technology tools with state funds.

In 1990 Optical Data Corp. made waves by becoming the first company to have its Windows on Science videodisc instructional system adopted as a textbook by the state of Texas. Since then, districts in California and Maryland have also adopted the 11-disc science curriculum product. In fact, Maryland is the first state to adopt Windows on Science districtwide. The three-year program places the package in 36 elementary and middle schools—empowering more than 27,500 students. Optical Data has also recently begun distributing INSIGHTS, a hands-on science curriculum for grades K-6.

Encyclopaedia Britannica Educational Corp. also has a science curriculum, the Britannica Science System (BSS), which relies largely on hands-on activities and multimedia materials; no textbooks are needed. Lately, the system was adopted by California, Nevada, Utah, New Mexico, Indiana and in West Virginia.

BSS is an integrated science curriculum for grades 3-6 that involves students with Full Option Science System's experimental desk-based materials, videotapes, Level I videodiscs with bar codes, and Level III discs with accompanying software.

Yet another example is Glencoe Macmillan/McGraw-Hill's TLTG Physical Science and TLTG Chemistry, developed by Texas Learning Technology Group. These are complete, 160-hour, two-semester multimedia courses on videodisc for secondary students. Chemistry I was adopted by the state of Texas last November. Also, Decision Development Corp.'s Science 2000 package was adopted by California in 1992 and West Virginia earlier this year.

> **"Many states have already adopted videodisc and software curricula as textbook options."**

South-Western Publishing offers a full semester course on computer literacy, ComputerVisions, which comprises hours of videodisc materials, software and a teacher's introductory videotape. A student activity disk boasts 140 pre-designed, hands-on computer applications and additional classroom activities. Covered are an introduction to computers, word processing, graphics, spreadsheets, telecommunication, programming, ethics, history and more.

Fred Lux at Cantrick Middle School in Michigan has used ComputerVisions since last fall in his seventh-grade computer literacy class. He says that the curriculum contains enough material for a full-year, middle-school course.

Lux is very impressed with ComputerVisions, especially with the system's ability, through its management software, to customize lessons. "I can grab video from the discs and a particular lesson then save them as a separate file on my hard drive," he explains. This technique works well in preparing the nine-week mini classes he holds for staff development workshops.

■ Electronic Publishing

California's Palo Alto Unified School District relies on documents that must be printed or copied and shared among students, faculty, parents and community leaders. In August 1991 the district's print shop installed a Xerox DocuTech Production Publisher, a high-speed, high-resolution digital image capture and document manipulation system that marries a 600 dpi digital scanner, an icon-based user interface and a 600 dpi laser printer with binding capabilities.

Original documents are scanned in and become digital masters that can be recalled and printed on demand. Users can move blocks of text, graphics or photos from one source to another. The laser printer then generates up to 135 pages per minute, performing inline collating, binding, stitching and stacking.

"In the yearbook project alone, the Production Publisher saved the district from $5 to $7 per copy."

In Palo Alto, the print shop receives 3,000 job requests per month via plain-paper fax, most for 30 to 150 copies. Examples of materials the district can now publish itself include summer school catalogs that boast text and children's drawings plus yearbooks complete with scanned student photographs and original poems or drawings. On the yearbook project alone, the Production Publisher saved the district from $5 to $7 per copy compared to using an outside company.

Another custom publishing product, Primis was introduced in the fall of 1989 as a collaboration between McGraw-Hill, Eastman Kodak and RR Donnelley. The system provides databases of McGraw-Hill textbooks, allowing professors to combine selected chapters, journal articles, case studies and other materials tailored to specific classes or students. Those materials are then bound into texts and published in mass quantities at RR Donnelley's plant and shipped to the school's bookstore within 72 hours. Students in particular save money with Primis; they need only buy one book, not several texts merely for one or two pertinent chapters in each.

The heart of the system are databases of McGraw-Hill texts; over 70,000 PostScript pages are available representing 17 disciplines. Chapters are chosen online. And McGraw-Hill ensures that all copyrights are protected.

English composition students at the University of Houston are using a Primis-built reader developed to their instructors' specifications. The text is comprised of articles culled from a Primis database called *The Accommodating Reader*, which boasts essays, nonfiction prose, short stories, poetry and drama.

The reader is being implemented by 31 UH lecturers and teaching assistants. Also, instructors at more than 300 other universities and colleges have created course-specific texts based on the *The Accommodating Reader*.

IBM Corp.'s BookManager platform takes electronic publishing to its ultimate, paperless end. Based on WordPerfect or Microsoft Word formats, BookManager's BUILD modules create online books comprised of instructor notes, texts, outlines or any departmental softcopy documentation. Building texts can occur on OS/2 workstations or on VM and MVS systems.

Students can access online books developed by their instructors through BookManager's READ products. Searches can be made on OS/2 and DOS computers, or on VM, MVS and AIX/6000 systems; instructors can both update and distribute books online. Students can also arrange several books into a "bookshelf."

"English composition students at the University of Houston are using a Primis-built reader developed to their instructors' specifications."

IBM has recently introduced a Library Reader component that acts like a lock-and-key system. Instructors can allow students to save their books to disk for later use on home computers, imbedding a "lock" within the book. Library Reader saves an accompanying generic run-time version of the READ program, which acts as the key to open the book, when the locked files are downloaded.

The department head of Louisiana and Lower Mississippi Valley Collections for Louisiana State University, Faye Phillips has been implementing BookManager in a project that places special collection materials—rare books, historic photographs, etc.—on CD-ROM. The department has been scanning in visual and textual materials, using OCR software to import the documents and then saving them as WordPerfect files. BookManager acts as the navigation software.

For example, Phillips scanned in a rare book first published in 1846. The OCR software saved the text as a WordPerfect document, which she edited. When researchers or students access the CD-ROM, they can read the WordPerfect text; if they want to view the book's original page, they can call up its image. Best of all, if that researcher wanted to save the text file to a floppy disk, he or she could, using the Library Reader feature (all of the resources

DIRECTORY

SOFTWARE/TEXTBOOK BUNDLES

Bantam Books
New York, NY
Write 901 on Inquiry Card

Benjamin/Cummings
Publishing Co., The
Redwood City, CA
Write 902 on Inquiry Card

Computer Associates
International, Inc.
Islandia, NY
Write 903 on Inquiry Card

Course Technology, Inc.
Cambridge, MA
Write 904 on Inquiry Card

Houghton Mifflin
Boston, MA
Write 905 on Inquiry Card

Knowledge Revolution
San Francisco, CA
Write 906 on Inquiry Card

Macmillan/McGraw-Hill, Inc.
New York, NY
Write 907 on Inquiry Card

MathSoft, Inc.
Cambridge, MA
Write 908 on Inquiry Card

MathWorks, Inc.
Natick, MA
Write 909 on Inquiry Card

Prentice Hall
Simon & Schuster Ed. Group
Englewood Cliffs, NJ
Write 910 on Inquiry Card

SMP Courseware Group
St. Martin's Press
New York, NY
Write 911 on Inquiry Card

Universal Technical Systems
Rockford, IL
Write 912 on Inquiry Card

CURRICULA OPTIONS

Decision Development Corp.
San Ramon, CA
Write 922 on Inquiry Card

Encyclopaedia Britannica
Educational Corp.
Chicago, IL
Write 913 on Inquiry Card

Glencoe Macmillan/
McGraw-Hill Publishing
Westerville, OH
Write 914 on Inquiry Card

Optical Data Corp.
Warren, NJ
(800) 524-2481

South-Western
Publishing Co.
Cincinnati, OH
Write 915 on Inquiry Card

Tech Pubs Hal, Inc.
Rutherford, NJ
Write 916 on Inquiry Card

Wisconsin Foundation for
Vocational Tech. & Adult Ed.
Middleton, WI
Write 917 on Inquiry Card

ELECTRONIC PUBLISHING

IBM Corp.
Boulder, CO
Write 918 on Inquiry Card

Primis/McGraw-Hill
New York, NY
Write 919 on Inquiry Card

Riso, Inc.
Danvers, MA
Write 920 on Inquiry Card

Xerox Corp.
Rochester, NY
Write 921 on Inquiry Card

The directory is not comprehensive and reflects those companies that responded to T.H.E. Journal's inquiries.

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included are public-domain).

Although still in development, this CD-ROM should be ready for pressing in July. It will be provided at the 25 CD-ROM workstations in the library as well as placed on the university's mainframe and network; dial-in access is also planned. In addition, the disc's rare materials will be available to students in the library's adaptive computing center, where computers will read the CD-ROM aloud to students and Braille keyboards and printers further facilitate usage. LSU libraries will also sell the disc.

Phillips decided to use BookManager because the school "had all the necessary pieces on campus." It was also less expensive than any other software. Says she: "students will have much broader access to the rare materials" with the new CD-ROM.

■ Off in the Distance

What the evolution of textbooks really does is place control of content in the hands of teachers. Software and textbook bundles ease the transition between text-only and software-only instruction, while providing valuable tools students will need when applying their skills in the workplace. And custom textbook publishing makes it easier for instructors to teach *exactly* what they want.

So perhaps textbook-only instruction is on the endangered species list. While the emphasis isn't on abolishing text per se, or that students shouldn't be encouraged to read books, what is being acknowledged is that technology products indeed enhance education, offering a more engaging and complete learning experience. One in which sight, sound, interaction and inquiry are married with hands-on exercises and led by a mentor who is not constrained by someone else's teaching style.

PRINTING 2000

PRINTING INDUSTRIES
OF AMERICA, INC

Executive Summary

SunChemical
General Printing Ink

BACKGROUND

Printing Industries of America (PIA) commissioned SRI International to conduct a comprehensive study of the future of the printing industry in the United States and Canada to the year 2000. The purpose of the study was to develop an overall picture of the major forces shaping the future of the industry and to assess the impact of those forces on the business of different kinds of printers. SRI addressed a broad sweep of issues that should concern a wide range of printers, from the very smallest—those with annual sales of less than $2 million today—to those with sales of more than $50 million.

SRI addressed prospective changes in thirteen printing markets:

- Magazines
- Catalogs and directories
- Direct mail
- Labels and wraps
- Inserts and coupons
- Other advertising printing and free circulation papers
- Annual reports
- Business forms
- Business communications
- Manuals and technical documentation
- Quick printing
- Books
- Printing trade services.

The study did not address commercial printing segments that are of interest to relatively few PIA members, nor did it include the future of newspaper printing.

SRI conducted an extensive survey of industry literature (forecasts, segment studies), drew on its own internal databases on the industry and related technology, and interviewed industry, market, and other experts. SRI then analyzed the main trends in printing technology, critical macroenvironmental forces, and likely changes in the thirteen printing markets; the cross-impacts of the major trends and uncertainties identified; and relationships of the traditional printing system to new forms of printing collectively labeled "nontraditional printing" and to information production systems that complement and compete with print. SRI and the PIA Task Force jointly reviewed the results of the research, identified the major implications of our findings, and analyzed the likely future structure of the industry.

HIGHLIGHT OF TRENDS

Four major clusters of factors will affect printers' businesses during the 1990s. (1) Macroenvironmental factors, such as the U.S. economy, the structure of the population, consumer lifestyles, business trends, general technology trends, trends in advertising, and the like, will shape demand for the products printers make. (2) More specific factors, such as labor force trends and environmental regulation, will affect printers' future operating environment directly. (3) Changes in printing and related technologies will determine the range of technologies that printers must invest in to remain competitive. (4) Finally, changes in the major printing markets will determine demand for printed products.

MACROENVIRONMENTAL TRENDS

Economic Factors

- The North American economy will grow at a slowing pace during the 1990s, ultimately resulting in a slowdown in the growth rate of demand for printing. Printers will have to achieve success more through increased profitability, market share, specialization in faster growing niches, and the like than by simply enjoying overall growth in a booming economy.
- Inflation will remain low to moderate, but real interest rates will stay high. Hence the cost of borrowing money to buy needed technology will remain high.
- Printers oriented toward geographic markets will find that economic growth and the kinds of customers they serve vary increasingly from region to region. Awareness of local rather than national economic and business trends will become more important to printers serving such markets.

Population and Lifestyle Factors

- Demand for printed products that satisfy the information needs of adults and students will continue to be strong. But population growth will slow during the 1990s, and the U.S. and Canadian populations will grow older. The next generation, entering the labor force after 2000, will be much more comfortable with electronic media, which will draw some demand away from print. Printers will see some further erosion of growth rates in demand for print toward the end of the decade.
- American society will become more fragmented and consumer markets more segmented. The number of special interests and consumer market niches will grow, with the consequence that printers will see demand for more printed products; but audiences will be smaller and hence print runs will be shorter and work more personalized to reach these audiences.

Education

- The U.S. education system will not change significantly during the 1990s, so demand for printed educational materials will increase as the next wave of students reaches high school and college. And, since educational and literacy problems will persist, printers will also see growing demand for business training and retraining materials.

Business Trends

- There will be much more widespread use of computers and communications networks in all businesses, including printing. Most important, printers serving business markets will see erosion of demand, because new media, such as electronic mail and electronic data interchange, will provide adequate substitutes for printed products. Improvements in desktop publishing technologies will, however, increase demand for very short run business printing.
- The number of small businesses will grow more slowly during the 1990s than during the 1980s, although turnover will be high. Growth will be slower for printers serving small businesses, but demand will shift from one- and two-color work to higher quality color products.

Advertising and Promotion

- Advertising and promotional spending, major drivers of demand for printing, will grow faster than the economy. Most of the increase in advertising will be for nonprint media, meaning slowing growth for magazines, direct mail, and the like; but printed promotional materials will continue to become more important for printers.
- The key trends in advertising will be more precise targeting of audiences and better measurement of the advertisements' effectiveness. Demand for shorter runs, higher quality, and color products will increase.

New Electronic Technologies and Media

- Many new electronic technologies and media will enter consumer and business markets during the 1990s. These will set the stage for competition with printed products, some of which will occur during the late 1990s. During the next decade, developing businesses based on these new media constitute opportunities for enterprising printers.

OPERATING ENVIRONMENT TRENDS

Labor Force Trends

- Slowing growth in the North American labor force will intensify competition for highly skilled labor among all businesses. Hiring and retaining good managers and workers and managing their work force more effectively will become more important for all printers. Skilled workers and managers will cost more.
- Continual training and retraining of workers will become crucial as printers strive to keep up with new printing technologies, more sophisticated customers, and the restructuring of printing businesses.
- Workers' demands for benefits will become more diverse and important. Printers will have to offer more comprehensive and more costly benefit packages, especially covering health and retirement, as the work force matures.

Environmental Regulations

- Environment regulations will become more stringent in all jurisdictions—federal, state, and local—especially in regions where major air, water, or toxic waste and solid waste problems exist. The bottom line is that virtually all printers will have to deal with environmental issues by the end of the decade.
- "Small-quantity-generator" exemptions, which have spared small printers to date, will not be available after the mid-1990s. Small printers will have to make adjustments to comply with regulations.
- In many areas, local and regional public pressures will exceed federal and even state regulations, so some printers will have to re-evaluate plant location or invest in abatement equipment and institute new work procedures as regulations tighten.
- Limited landfill capacity will increase pressures to recycle paper. While higher quality printing papers represent only a small part of paper wastes, they will not be exempt from pressures as this issue evolves. Pressures to require the use of recycled paper will probably first affect lower quality papers for products such as inserts and directories. Printers will be affected as selected customers see the need or desirability for greater use of recycled paper.

Postal Regulations

- Postal rates are likely to rise about 20% every three years during the 1990s. Publishers, direct mailers, and others using the postal system will be under pressure to design their products for economical mailing and to find more cost-effective and alternative distribution systems. Opportunities for printers to become involved in distributing printed products will grow.

PRINTING TECHNOLOGY TRENDS

- The 1990s will be the first decade in which most, if not all, of the information processed by prepress shops and printers will be largely in digital formats.
- Workstations now called desktop publishing systems are already so ubiquitous in businesses and among printing firms that they are becoming front-end platforms (FEPs) for printing. They will continue to alter the relationship between prepress activities and customers.
- High-speed communications will be used increasingly in the printing industry for transmitting files and documents between vendors, clients, and end users. Printing firms will have to incorporate telecommunications capability into their operations as the technologies become available and their customers implement them.

Prepress Technologies

- By 1995, prepress systems will be able to transmit data (text and graphic images) and documents between different manufacturers' hardware systems. Prepress functions and products will be linked from graphics artists at one end of the production process through to printers at the other end.
- FEPs and high-speed, high-volume telecommunications will further augment the trend toward globally based publishing. Printers will increasingly be doing work for customers who are located at great distances and in different countries.
- Many design and creative functions will move back from vendors toward their customers; prepress shops will find clients retaining greater control over the production of camera copy or electronic substitutes.
- Other developments include color electronic prepress systems (CEPS) in a complete range of capabilities and prices, improved charged-couple device scanners, significant penetration of digital proofing by 1995, and direct-to-plate prepress processes for offset. Change in these and other prepress technologies mean continuing pressures to upgrade technology to remain competitive and improving quality and capabilities at all levels of prepress operations. Printers will also see much faster turnaround, significant reduction in rework and waste, lower labor costs, and the increased use of color and new markets for color.

Offset Printing

- The major trend in web offset printing will be increasing automation, which will improve speeds, reduce waste and makeready time, improve quality, and reduce labor costs. Web improvements will allow faster and longer runs, making web more competitive with rotogravure, while also extending the range of web offset to shorter runs.

- The increased technological complexity of presses will increase the demand for systems engineers, systems analysts, and maintenance technicians to keep computer-controlled presses running efficiently.
- Improved production efficiencies will increase competition, forcing web printers to integrate forward (prepress) and backward (finishing and binding). Competitive pressures will also force web printers to seek shorter jobs to maximize capacity utilization.
- Few significant changes will occur in sheet offset technology, although speeds will generally increase, making sheet-fed presses more competitive for longer runs. However, most sheet printers will be moving toward shorter and shorter run work and more specialized and personalized products.

Rotogravure Printing

- Although rotogravure will grow more slowly than offset and flexographic printing, technological improvements will enable rotogravure to remain competitive with offset (better efficiencies and shorter run jobs) by streamlining cylinder preparation and increasing speeds. Competition between rotogravure and offset will increase in higher run work and move down to the 100,000 impressions range.
- Automation of rotogravure presses will lag offset; the major opportunities will focus on automated cylinder changeover, the transport and loading of paper rolls, and related functions.

Flexographic Printing

- The major improvements in flexography will be in the quality of plates and inks, including improved halftone quality, sharper edges approaching offset quality in some applications, and improved density and consistency of water-based inks (better color).
- Environmental regulation will favor the growth of flexographic printing, but its main markets will be newspapers, inserts, and comics; directories; direct mail pieces; business printing; and packaging.

Inks

- Improvement in inks is a major area of focus for suppliers because of environmental regulation. Areas of rapid development include soy-based, water-based, electron beam, and ultraviolet-curable inks. Waterless lithography inks and plates in use in Japan are also expected to penetrate North American printing.

Plateless Printing

- The quality of electrophotography (laser and light-emitting diode processes) will increase, but speed and economics will lag behind other printing technologies, limiting greater penetration to office, in-plant, and fast-service printers markets.
- Ink-jet quality and speeds will improve and prices will fall, mainly to the advantage of office printing markets. Use of ink-jet "printing" for personalization of periodical and direct mail products will also increase.
- Thermal, ion deposition, and magnetography technologies will improve but will lag electrophotography and ink-jet printing in most applications. Holography will remain a specialty tool for advertising images in the 1990s.

Postpress Functions

- Nonautomated and labor intensive postpress operations will remain a major bottleneck in production environments. Cost pressures will focus attention on automated or robotized materials tracking and handling systems, and automated in-line finishing and binding extensions to high-volume presses.
- Capital investment for increasing automation in postpress will increase as very large printers grow even larger.

KEY MARKET TRENDS

Nearly all major printing markets will grow more slowly during the 1990s than during the 1980s. This study addressed thirteen key markets, whose historical and future prospects for growth are summarized in Table ES-2.

Magazines and Other Periodicals

- Growth in magazines and other periodicals will be about the same as in the 1980s; consumer magazines will grow at a relatively slower rate and business magazines at a slightly higher rate. Professional and scientific/technical journals will continue to grow rapidly, providing good opportunities for printers serving these niches.
- Finer targeting will reflect the increasing segmentation of magazine markets by publishers and advertisers. Printers will see more demand for shorter runs, regional and special editions, and personalization of advertising. In-line ink-jet printing and similar capabilities will move down from larger periodical printers to medium-size printers. Offset will remain the dominant printing technology in this segment.
- Postal cost pressures will force publishers toward alternative distribution channels; opportunities will increase for printers to develop distribution capabilities.

WE ARE NOT ALONE

BY PAT ALLEN

There are more of you out there than you may think.

We know how it is. It's late. The people you work with left hours ago. Yet you're still there, still trying to complete a project.

Much is made of publishing as a cooperative venture and it is. But much of the creating—the writing or the illustrating—is solitary work.

If it's any comfort to you during those long and lonely evenings, there are more of you out there than you may think.

Here are a couple of facts and figures we've been collecting lately on what you do and its importance.

•Corporations spend from 6 percent to 10 percent of their revenues on publishing.
Source: Interconsult, Cambridge, Mass.

•U.S. industry and government spend more than $50 billion annually on electronic printing and publishing—as much as 5 percent to 15 percent of total corporate revenues.

More than $12 billion a year is spent on laser printing alone.
Source: XPLOR International, Palos Verdes Estates, Calif.

•In 1990, desktop publishing systems were sold at a rate of 200,000 per year. By 1993, 250,000 systems will be sold annually. The desktop market will total $4 billion in sales in 1993.
Source: BIS Strategic Decisions, Norwell, Mass.

•More than one-third of the materials received by printers from their customers are in electronic format.
Source: Printing Industries of America Inc., Alexandria, Va.

•The worldwide computer graphics market was estimated at $33.3 billion in 1990 and is projected to nearly double by 1994.
Source: Kurta Corp., Phoenix

•Unit sales of desktop imaging software (including image editing, illustration, optical character recognition [OCR] and page layout products) will grow 50 percent in the next three years—from 1.5 million unit sales in 1992 to 5 million unit sales in 1995.
Source: BIS Strategic Decisions, Norwell, Mass.

•Total U.S. shipments of image and OCR scanners are forecast to grow from $612 million in 1991 to $1.7 billion in 1996.
Source: Frost & Sullivan International, New York

•The total value of all color products shipped—scanners, graphics boards, monitors, printers, copiers and film recorders—is projected to reach $13.3 billion by 1997.
Source: Market Intelligence, Mountain View, Calif.

•"Desktop publishing businesses" was the second fastest growth category of listings in the Yellow Pages in 1991.

There were 2,859 businesses listed in the Yellow Pages in the beginning of 1991 and 4,734 at the end of 1991—a 65 percent increase.

It was second only to the baseball sports cards/memorabilia category.
Source: American Business Information Marketing Research Division, Omaha, Neb.

BUSINESS PUBLISHING'S EDITORIAL ADVISORY BOARD

Wayne Anstine, Genentech Inc., South San Francisco • Raymond Barnes, The Upjohn Co., Kalamazoo, Mich. • Robert Baysdon, Metropolitan Government of Nashville and Davidson County, Tenn. • Kathleen Brady, R.J. Reynolds Tobacco Co., Winston-Salem, N.C. • Michael Breiner, American Greetings, Cleveland • Valerie Brewster, Seattle Weekly • John Cook Jr., Cook's Pest Control, Decatur, Ala. • Lee Edelstein, The Paradigm Group, Westport, Conn. • Martha Griffith, Arvin Industries, Columbus, Ind. • Sonya Harris, Booz, Allen and Hamilton Inc., Bethesda, Md. • Ann Huckaba, Kaiser Permanente, Livermore, Calif. • Tammy Jaskyt, American Express Integrated Payment Systems, Englewood, Colo. • Linda Kahn, Varian Associates, Palo Alto, Calif. • Susan Katz, Macy's, New York • Richard Kauffman, ArtAttack Studios, Philadelphia • Mike Murray, Martin Marietta Information Systems, Orlando, Fla. • Ron Perea, *Greeley (Colo.) Tribune* • Diana Rollins, Pier 1 Imports, Fort Worth, Texas • Lee Schultz, The Keyes Company, Realtors, Miami • Leslie Wright, University of Washington, Seattle

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TO: Fellow Members of Our HRD Learning Community
FROM: Warren H. Groff
RE: Our Next Increment of Growth
DATE: April 10, 1994

It was a pleasure to work with you in the first HRD session.

Each of you began to develop a conceptual framework for an HRD project with a vision (paper 2) which will be refined into an action plan (paper 3). You had the opportunity to co-create your vision with other professionals with similar planning preferences. Now manage your time wisely to produce your vision paper.

Outline what you think will be contained in your visions paper. The outline will ultimately become a TABLE OF CONTENTS with INTRODUCTION and CONCLUSIONS, both of which are concise and focused statements. You have a great deal of latitude with presenting the body of the visions paper. Several individuals may want to have a short section on BELIEFS, VALUES, PRINCIPLES, AND RESEARCH. The bulk of the paper will be on the HRD project. A brief section following the HRD project could be on SUPPORT SERVICES - Library and Media Center, Communication and Information Infrastructure. Include some REFERENCES. Support information may be included in the APPENDIXES like a strategic plan or institutional effectiveness study.

Quality and substance are most important. Try to adhere APA format. I appreciate papers one week before we meet. Anther option is to send the paper to the hotel. I want to read the paper the Friday before class. The Marriott address is:

Dr. Warren H. Groff
Courtyard Marriott Laguna Hills
23175 Avenue De La Carlota
Laguna Hills, CA 92653

The second part of the visions assignment is to have something for distribution to the cluster and PHE personnel. You decide what to distribute. Please bring 20 copies. Also, feel free to bring relevant articles with citations. You heard the gist of the project for each person. Feel free to collaborate and network. Get on-line and network electronically. You could collaborate with someone on almost every aspect of the visions paper.

Teaching the Elephant to Dance contains some good statements about vision.

The original instructions packet sent to you contained ERIC Document Resumes. ED 359 412 contains the work of three students. ED 351 499 contains papers by three students. ED 335 519 contains the work of another student. The enclosed ED 361 531 contains numerous useful ideas including the approach aindividual took to write Chapter 5 in her MARP.

Read Section D of the April 10 Los Angeles Times.

During the second session we will spend some time reviewing the visions and then create and co-create action plans. We will also discuss ideas for a practicum near the end of the day. If you want to, you can develop the idea on a single sheet of paper and send it to me or bring it to class.

As the "Lead Facilitator" of our HRD Learning Community, my role is to help you become a High Performance Learner and Leader to enhance the possibility of program completion. I look forward to working with you again next month.

I shall attempt to attend the practicum help session.

* * * * * * * * * *

A "Third Wave" Electronic College

Judith W. Leslie uses Toffler's The Third Wave to develop an educational institution in an advanced technical era dominated primarily by electronic media.

> This methodology would allow the learner to proceed at his/her own rate and style, within his/her own time period, at his/her desired location, drawing upon learning materials from throughout the country and the world. Computer science and electronics courses and programs of study would be an integral part of the curriculum. Faculty would be cross-trained in a variety of disciplines and teaching styles. They would have flexible work schedules and loads and might share an assignment with a spouse or colleague. Many faculty would instruct from their home or electronic cottage....
>
> Judith W. Leslie. "As The Third Wave Approaches Higher Education: Planning For the Electronic Institution," CAUSE/EFFECT, January 1981, Vol. 4, No. 1, p. 15.

* * * * * * * * * *

> In the end, it is important to remember that we cannot become what we need to be by remaining what we are.

Max De Pree. Leadership Is An Art. NY: Doubleday, 1989.

DOCUMENT RESUME

ED 361 531 CE 064 493

AUTHOR	Groff, Warren H.
TITLE	Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities. Human Resource Development. Summer 1993.
PUB DATE	93
NOTE	174p.; For earlier collections of materials pertaining to the same seminar, see ED 272 247, ED 290 860, ED 319 882, ED 335 519, ED 351 499, ED 352 126, and ED 359 412.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	Critical Thinking; Doctoral Programs; Educational Innovation; *Foreign Students; Futures (of Society); Higher Education; *Labor Force Development; Leadership Training; *Nontraditional Education; Productive Thinking; Research Projects; Rural Areas; Science and Society; Seminars; *Strategic Planning; *Summer Programs; *Technological Advancement; Technology
IDENTIFIERS	*Nova University FL

ABSTRACT

This package includes a description of Nova University's Human Resource Development (HRD) core seminar and materials from the International Cluster. The first section presents the rationale for HRD as learning to learn becomes the critical technology in an era of global competition and accelerating modernization. An overview of Nova's core HRD seminars is followed by a description of the International Cluster HRD, started for foreign students and persons living in remote areas. The format consists of two seminars prior to the summer institute; its goal is the development of high performance learners and leaders. A 24-item bibliography is followed by seven appendices: (1) seminar student instructions and assignments; (2) HRD visions and action plans; (3) preferences for scenario and action plan development; (4) vision and action plan for "Science, Technology, and Society" by Madeleine Friedman; (5) explanation of Nova's electronic library; (6) list of student practicum papers and abstracts of seven major applied research projects; and (7) a networking session, "Science and Technology: Impact on Workplaces and Workforces." (YLB)

****
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TO: Professionals in the Orange County Cluster
Each letter addressed personnally

FROM: Warren H. Groff

RE: "'Third Wave' Transformational Leaders"

DATE: June 17, 1994

It was a real pleasure to work with you in HRD. You are extremely fortunate to have Don Busche as a Cluster Coordinator. His Friday evening sessions on the practicum proposal process and the practicum report process were excellent. The Santa Ana Cluster set a record in that three proposals were reviewed by Don by the third session of HRD and several other practicum ideas are being developed. I will be at the Summer Institute through Wednesday noon. If an HRD proposal is reviewed by Don by Tuesday, I would be happy to review it and provide feedback at the Institute.

The vast majority of professionals in the Orange County Cluster did an excellent job with the fundamental concepts of HRD in terms of analysis of HRD in the workplace context, creation of a vision and multi-year action plan for an HRD project, the presentation of the vision and action plan, and the synthesis of the learning experience as well as stating ways the base of understanding can help with other goals. HRD is the critical know-how for the transition from a post-industrial era through an early technical era and preparation for the advanced technical era.

Create a plan for the next three to five years with goals and objectives you want to accomplish. One person in your cluster will have the opportunity to influence policy as a member of a college board as well as influence practice in teaching and learning. Second, think wholistically about PHE requirments -- sequence of seminars, practicums, and MARP. Read exemplary work such as the practicum reports and MARP proposals and reports made available to you during the HRD seminar. Complete practicums while taking seminars. Master APA form and style. (Get online and explore electronic library and cruise Internet).*

Best wishes are you continue in PHE.

* Not included for three individuals in CIT.

APPENDIX B

Instructional Support and Other Related Materials

B 1. General Instructional Support Materials

B 2. Visioning

B 3. Pacific Rim Partnerships

B 4. Rethinking, Restructuring, Revitalizing

THE VISION THING

VISION:

THINKING STRATEGICALLY ABOUT THE 21st CENTURY

AGO	NOW	21ST CENTURY
Self Contained Independent	International Somewhat Interdependent	Global Interdependent

Workplaces

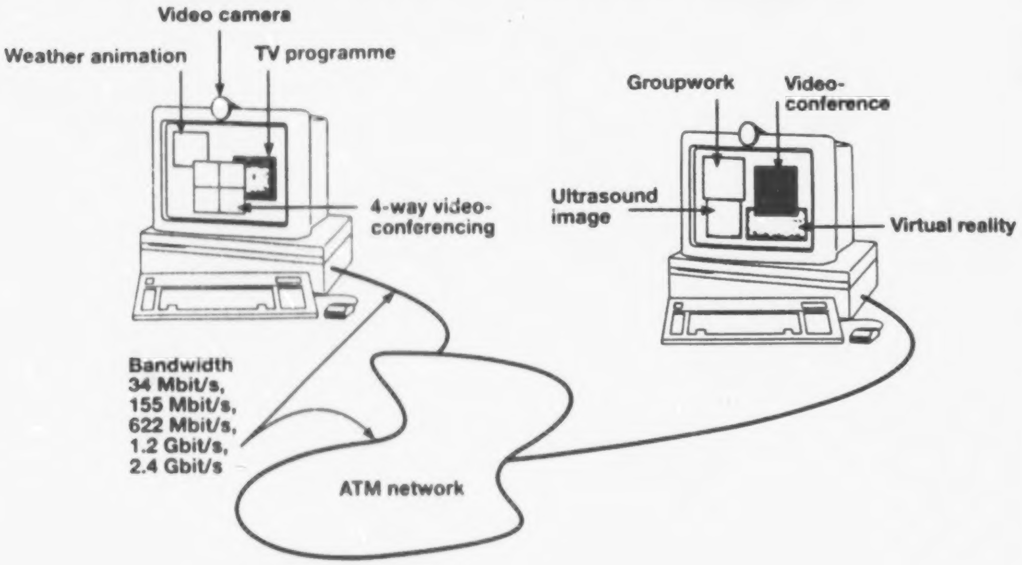
Workforce
Competencies
And Skills

Human Resource
Development
Systems

Hard Technology

ATM
Cellular
Communications
Digital
Distance Education
Electronic Publishing
Voice Activated
    ENHANCEMATE
    IN CUBE
    VERBEX

BROADBAND APPLICATION ENVIRONMENT



ATM

STATE OF THE ART

ELECTRONIC BOOKS

Hypertext publishing lets you structure, distribute, retrieve, and annotate the information you need

BOOKS ONLINE:

Visions, Plans, And Perspectives For Electronic Text

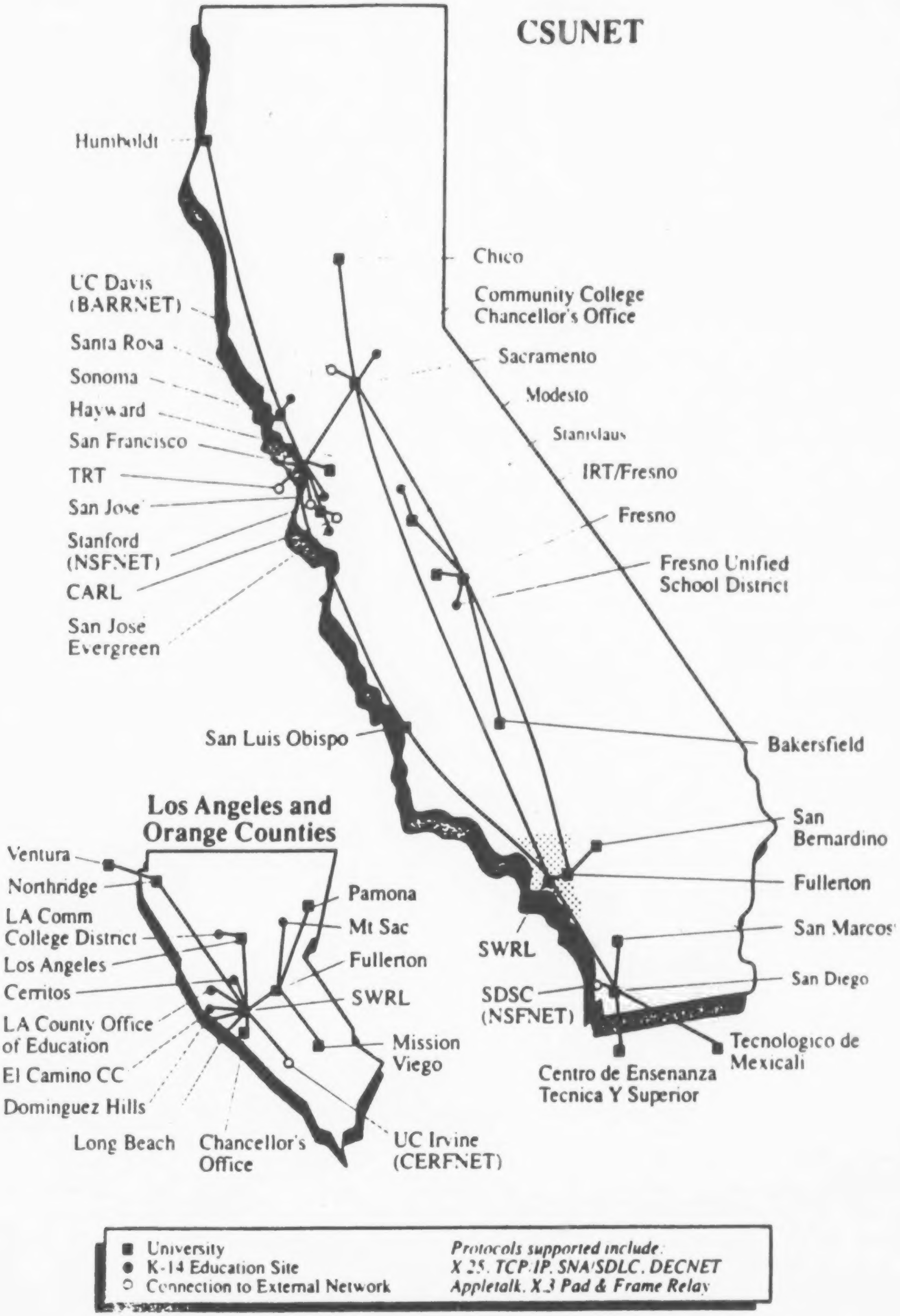
TEXTBOOK

SOFTWARE AND
TEXTBOOK BUNDLE

CUSTOM TEXTBOOK

ONLINE TEXTBOOK AND
ELECTRONIC HANDBOOKS

ONLINE MATERIALS:
ARTICLES, SYLLABI, NOTES



CSUNET

Humboldt
Chico
Community College Chancellor's Office
UC Davis (BARRNET)
Santa Rosa
Sacramento
Sonoma
Modesto
Hayward
Stanislaus
San Francisco
IRT/Fresno
TRT
San Jose
Fresno
Stanford (NSFNET)
Fresno Unified School District
CARL
San Jose Evergreen
San Luis Obispo
Bakersfield
Los Angeles and Orange Counties
San Bernardino
Ventura
Northridge
Pamona
LA Comm College District
Mt Sac
Fullerton
Los Angeles
Fullerton
Cerritos
SWRL
San Marcos
SWRL
LA County Office of Education
SDSC (NSFNET)
San Diego
Mission Viego
El Camino CC
Tecnologico de Mexicali
Dominguez Hills
Centro de Ensenanza Tecnica Y Superior
Long Beach
Chancellor's Office
UC Irvine (CERFNET)
■ University
● K-14 Education Site
○ Connection to External Network
Protocols supported include:
X.25, TCP/IP, SNA/SDLC, DECNET
Appletalk, X.3 Pad & Frame Relay

Know-How Technology

Strategic Planning
ISO 9000
Needs Assessment
Outcomes Based Educ
Performance Funding
Program Review
Site Based Management
Tech Prep
Total Quality

A Vision of IBM Human Resources

Performance in the year 2000

NOW	**The Year 2000**
Plan by jobs	Plan by skill
Courses	Instruction modules
Traditional ISD	Automated development
Explicit evaluation	Embedded measurement
Culture dependent	Automatic translation
Limited media	Multisensory
Local catalogs	Worldwide libraries
Centralized	Distributed
Management-initiated	Employee-initiated

APPENDIX B 3

Pacific Rim Partnerships

Mr. Yen-chien Sheu, Professor at National Taiwan Normal University became a student in the vocational, technical, and occupational education specialization in the Programs for Higher Education. He obtained funding from Dr. Kirby Yung, then Vice Minister of Education, for the 1991 Vocational Education Symposium to be conducted at National Taiwan Normal University, Changhua University of Education, and National Kaohsiung. My presentations were Restructuring Education and Training, The Structure of Human Resources Development in the United States, and Characteristics of the Advanced Technical Era. Some of my papers were published in Vocational Industrial Education prior to the visit. "Toward the 21st Century Learning Communities of the Future: A Sino American Partnership for an Advanced Technical Era" was published after the presentations.

Dr. Niann Chung Tsai passed a comprehensive examination in fall of 1992 and chose to develop a strategic plan to convert a traditional undergraduate program to a nontraditional format at the World College of Journalism and Communications. In March 1993, I helped conduct a strategic planning workshop at WCOJC, spoke on Curriculum Development to approximately 70 graduate students at NTNU, and provided information to the Printing Technology Research Institute on "Occupational Analysis: Now and Future Work" and "Curriculum Development: Skilled Worker Training in the United States."

Mr. Shue passed a comprehensive examination in spring 1993 and selected the major applied research project "Development of a Strategic Plan to Establish a Printing Department at National Taiwan Normal University."

During February 1994, the first National (multitech) Cluster in the Child and Youth Studies doctoral program completed Leadership II and I wrote "'Third Wave' Transformational Leaders" which was presented at the Education Technology Conference for the New Jersey School Boards Association. "Third Wave" and the Restructuring workbook used in NJ were sent to Taiwan. I spoke at the 1994 International Conference on Technology Education on "'Third Wave' Transformational Leaders: Creating Solution Based Learning Focused on Math, Science, and Technology." Materials were sent and a Resource Manual was produced. I spoke on the same topic to graduate students at NTNU and tied comments directly to the printing department.

The Southeast Asian Ministers of Education Organization completed a scenario development project citing my work.

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The Six-Year National Development Plan for Taiwan, Republic of China (1991-1996)

—Macroeconomic Development Targets—

In 1978, the Government convened the First National Science and Technology Conference with the aim to develop a long range national policy on science and technology for the Republic of China, and to determine ways and means to implement such a policy. The policy was subsequently reviewed by the second conference held in 1982, and followed by the third conference in 1986.

The objectives of science and technology development program include: (1) improve well-being of the populace; (2) support economic reconstruction: (3) strengthen national defense industry.

The strategies include:

- Improve R&D environment
- Formulate integrated long-term development plan.
- Strengthen science education and cultivate technical manpower.
- Utilize overseas Chinese technical manpower.
- Systematically introduce new technologies.
- Promote international technical cooperation.
- Strengthen inter-disciplinary cooperative research and R&D project management.
- Improve public awareness and support.

Development of Strategic Areas in S&T

Energy

Energy policy on Taiwan area:

- To carry out exploration for domestic energy resources.
- To raise the effectiveness of energy utilization.
- To enhance energy R&D, and etc.

Materials

The objects of material technology include:

- To solve the problems encountered in material technologies and to increase value-added products.
- To enhance the establishment of advanced material technology and industry.

Information

The objects of information technology area:

- To make effective use of computer systems.
- To elevate capability to develop information technology in order to build up an export-oriented industry.

The products which develop from this area include:

1. 1.25 um fabricating process.
2. IBM ps/2 compatibility.
3. Intelligent workstation.
4. Chinese expert system shell.
5. Intelligent ETHERNET network.
6. Software development workstation, and etc.

Automation

Accomplishments of this plan include:

1. Assisted more than 1,300 factories in improving their services.
2. Developed 9 robots, 3 unmanned transportation equipment, 35 kinds of CAD/CAM software, and 3 kinds of FMS system.
3. Developed 255 different automatic products, and transferred 230 cases of technology to 192 factories.

Biotechnology

Objectives:

- Establish national laser and electro-optics industries.
- Promote the development of major thrust in S&T and strategic industries, and meet the need of defense industry development.

Development Items:

1. Electro-optics materials & divices.
2. Optical component & instrument, and optical information systems, etc.

Food Technology

- To raise added value of agricultural produces and to improve prosperity of rural economy.
- To upgrade basic industry for daily needs of consumers.
- To improve the well-being of the people.

Environmental Science and Technology

- To transfer technology from abroad to improve pollution control.
- To develop technology to improve the pollution control of rivers and reduce urban air pollution.
- To develop technology for hazardous waste control.

Major R&D Institutes

Institute for Information Industry, (III)

The Institute for Information Industry was established in 1979 as a non-profit organization dedicated to promoting the development of computer-related technologies and their use in industry, business, and government.

The III consists of a Technology Research Division, a Product Development Division, a Systems Engineering Division, an Education and Training Division, a Promotion and Services Division, an Administration Division, a Planning and Evaluation Office, a Computer Center, and a Market Intelligence Center.

The Institute has a staff of over 500 skilled experts. Some of the personnel come from the domestic or foreign information industries, but most of them are graduates of colleges, universities, or graduate schools. Three-fourths of the Institute's are information professionals with areas of expertise that encompass operating systems, data communication, data-base management systems, software tools, etc.

The functions of the Institute are set in accordance with the Science and Technology Development Program passed by the Executive Yuan, as follows:

- To conduct research and consequently introduce new software technology.
- To help the government formulate short-, medium- and long-term development plans for the nation's information industry.
- To promote development of the domestic information industry and support the growth of related industries in the private sector.
- To help government agencies and public enterprises computerize their operations.
- To help improve the environment for investment and growth in the development of the information industry and computerization.

Industrial Technology Research Institute, (ITRI)

Industrial Technology Research Institute, a bridge between academic institutions and industry, is a multidisciplinary organization actively engaging in the research and development of industrial technologies in the fields of chemical, mechanical, electronics, materials, energy and mining engineering. The institute has as its broad objectives of assisting the local industry in technology innovation, improvement of productivity and effective utilization of resources.

To accomplish this objective, ITRI researches and develops industrial technologies and then transfers the results to industry. Many projects are generic technologies, developed under government contract, which will bear fruit in three to five years and be made available for commercialization, allowing domestic companies to avoid duplication of fundamental R&D.

The ITRI consists of a Union Chemical Laboratories, Mechanical Industry Research Laboratories, Electronics Research & Service Organization, Energy & Mining Research/Service Organization, Materials Research Laboratories, and Center for Measurement Standards.

The Institute's reputation has enabled it to assemble the most experienced team of research professionals in Taiwan. Of the over 4,000 employees, 60% have university degrees, with more than 150 Ph.D's, 1,080 master's and 1,628 bachelor's.

ITRI is committed to preparing industry to meet the new challenges of an increasingly sophisticated technical environment. ITRI's unique structure offers local industry both the specialized resources of its divisions working independently, and cross-field capabilities of its divisions working cooperatively. It is looking forward to the exciting developments the future holds. The diverse, expert capabilities uniquely equip ITRI to upgrade technology and contribute to a better tomorrow for Taiwan's industry.

Development Center for Biotechnology, (DCB)

Development Center for biotechnology is a government initiated non-profit organization. The main purpose of establishing DCB is to promote and upgrade biotechnology industry, and to facilitate the rapid transfer of newly developed biotechnology to downstream industries.

The operation is organized in two directions:

(1) Vertically, DCB bridges the academic sector and the industrial sector by performing developmental research in its own establishment. DCB has a state-of-art pilot plant to develop the technologies originated from the academic researchers and transfer them to appropriate manufacturers. It also provides market research and assessment services for the academy, industry and government.

(2) Horizontally, DCB seeks out, purchases and adopts suitable biotechnologies developed around the world and transfers them to domestic industries. In addition to technical services, DCB may, on special occasions and when feasible, choose to become a minor partner in joint venture projects.

The DCB is equipped with several laboratories for genetic engineering research, various kinds of fermentation vessels, large scale centrifuges, and a series of the latest biochemical and analytical instruments. The Center has employees over 200, 85% have university degrees, with more than 25 Ph.D's, 55 master's and 98 bachelor's.

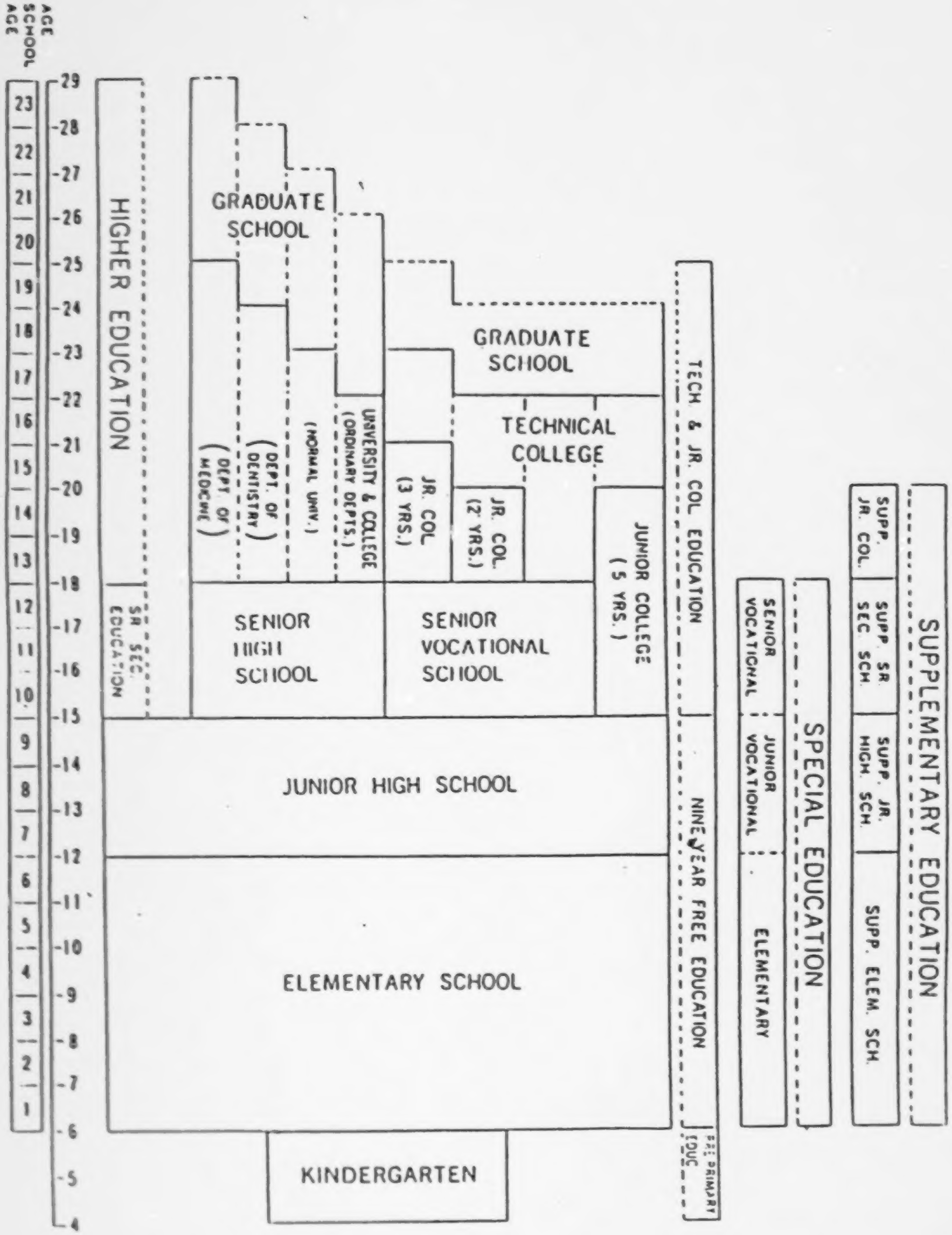
The functions of DCB should focus on the follow targets:

— Genetic Engineering research.
— Monoclonal antibodies production.
— Microbial strain improvement.
— Wasterwater treatment, and etc.

3. Upgrade the quality of instruction at all levels of education, strengthen vocational training to ensure an ample supply of high-quality manpower, and improve working conditions in all industries to encourage willingness to work and to meet the needs of industrial development.
   (1) Promote the balanced development of education at all levels and all localities, improve the vocational education system, expand the capacity of higher educational institutions, and actively promote scientific and technical education.
   (2) Streamline the vocational training system and encourage companies to provide on-the-job and continuing training and educational opportunities, in order to upgrade and improve employee skills.
   (3) Improve working conditions and establish a mechanism for the resolution of grievances and disputes, in order to ensure harmonious industrial relations.

4. Encourage private-sector participation in the development of key technologies and promote forward-looking technology development programs in an effort to accelerate the pace of industrial restructuring.
   (1) Increase R&D expenditures and strengthen cooperation between public and private research organizations to improve R&D efficiency.
   (2) Encourage the establishment of venture capital companies and offer tax and financial incentives to induce the private sector to invest in high-tech R&D.
   (3) Continue to develop the science-based industrial park at Hsinchu and begin planning for the construction of a "technopolis" in an effort to integrate regional scientific and technological development.
5. Secure a stable supply of energy and improve energy efficiency.
   (1) Continue to build new power plants; promote the use of natural gas; upgrade the energy structure; step up prospecting for oil and natural gas both domestically and abroad; conclude long-term contracts with foreign suppliers of energy; diversify sources of energy imports; and increase strategic energy reserves.
   (2) Establish a rational energy-price structure, promote co-generation, and assist private firms to improve their energy-management programs in order to increase overall energy efficiency.

Educational System in Taiwan



Yng-chien Sheu. "The Development of Vocational Industrial Education in the Republic of China." May 1985.

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國立台灣師範大學工藝教育學系
NATIONAL TAIWAN NORMAL UNIVERSITY
DEPARTMENT OF INDUSTRIAL ARTS EDUCATION
162, Ho-Ping E. Rd., Sec. 1, Taipei 10610
Taiwan, Republic of China

April 27, 1994

Dr. Warren H. Groff
No. 1531, Peabody Ave.
Memphis, TN 38104
U.S.A.

Dear Dr. Groff:

As one of the leading educators in the field of Technology Education, you are cordially invited as a speaker for the International Conference on Technology Education to be held in Taiwan during the week of May 16-21, 1994. The theme for the conference is "The Implementation of Technology Education". We are interested in two issues: how to make a smooth transition from Industrial Arts to Technology Education and how to implement Technology Education at the high school level.

We also plan to have other scholars from the United States, England, Germany, and Japan to present their experience and approaches toward the transition and implementation of Technology Education. In addition, two teaching specialists will be invited to demonstrate sample lessons for the teaching of Manufacturing, Construction, Communication, and Transportation Technologies. The target audience are local high school Industrial Arts teachers, school administrators, and teacher educators.

We will cover your expenses for Economy class airfare, board and lodging. Please book your tickets from your local travel agent and save the receipt for the reimbursement. A small amount of incentive will also be given to each presentation. Interpreters will be available on and off the conference for all guests from other countries. Your presentations in Taipei and in Kaohsiung have been scheduled on May 18 and 21. If you would accept our invitation and speak on the topic of "Third Wave Transformational Leaders--Creating Solution Based Learning Focused on Math, Science, and Technology " (professor Jerry Sheu has passed your papers to me) that will make the conference a strong attraction to all the participants.

We are anxious to get your response and looking forward to work out the detail for you. Attached is a copy of the program for the conference. Please feel free to contact me at the following numbers

Phone: 886-2-321-3664 or 886-2-394-2640
Fax: 886-2-392-1015

Sincerely,

Chien Yu

Chien Yu, Ph. D.
Department Chairperson
Conference Organizer

國立臺灣師範大學
National Taiwan Normal University
162, Sec. I East Hoping Road, Taipei, Taiwan 10610

OFFICE OF THE PRESIDENT
TEL : (02)363-9607
FAX : (02)392-2673

May 7, 1994

Dr. Warren H. Groff
No. 1531, Peabody Ave.
Memphis, TN 38104
U.S.A.

Dear Dr. Groff:

On behalf of the university faculty, staff, and students, I am writing this letter to express our sincerest thanks for your acceptance to be our esteemed speaker for the 1994 International Conference on Technology Education to be held in Taiwan during the week of May 16-21.

It is a critical time for the Industrial Arts /Technology Education in Taiwan. We have just finished the revisions of the national standards for junior high school (7-9th grades) Industrial Arts curriculum. Currently, some of the faculty members of this university are involved in the process of revising the one for senior high schools (10-12th grades). These revisions will enable us to move the high school curricula from Industrial arts to Technology Education. Your presentation will certainly benefit our work in implementing technology education for high schools.

We try to make your stay in Taiwan a pleasant. Dr. Chien Yu, chairperson of Industrial Arts Department and the conference organizer, along with his staff, has reserved the hotel rooms and arranged the transportation for you. Enclosed please find a piece of information sheet for the hotel. If there is anything I can do for you, please let me know.

I am looking forward to seeing you at the conference.

Best regards,

Hsi-Muh Leu, Ph. D.
President

研討會議程表(英文)

Programs for the 1994 International Conference on Technology Education

Taipei Area: May 16-18 at the National Taiwan Normal University (NTNU)
Kaohsiung Area: May 19-21 at the National Kaohsiung Normal University (NKNU)

May 16 and May 19

8:30-8:40	**Greeting by the Organizer** Presenter: Dr. Chien Yu, Chairperson Department of Industrial Arts Education, NTNU
8:40-8:50	**Opening Speech** Presenter: Dr. Hsi-Muh Leu, President of NTNU (Taipei) Dr. Chen-Ku Hwang, President of NKNU (Kaohsiung)
8:50-9:20	**Opening Speech** Presenter: Dr. Kirby Yang, Deputy Minister of Education
9:20-9:30	**Opening Speech** Presenter: Dr. Ying-Hao Chen, Commissioner of Education, Department of Education, Taiwan Provincial Government
9:30-9:50	Tea Time
9:50-10:50	**Implementation of Technology Education: The American Experience** Presenter: Dr. Franzie Leopp, Distinguished Professor, Department of Industrial Technology, Illinois State University, Normal, Illinois, U.S.A.
10:50-11:00	Break
11:00-12:00	**The Standards for Technology Education** Presenter: Dr. William E. Dugger, Jr., Professor & Administrative Leader, Technology Education, Virginia Tech., Blacksburg, VA, U.S.A.
12:00-13:00	Lunch
13:00-14:00	**The High School Technology Education Program in the United States as a Part of a K-12 Experience** Presenter: Dr. Kendall Starkweather, Executive Director International Technology Education Association, Reston, VA, U.S.A.
14:00-14:10	Break

14:10-15:30 **How to Teach Manufacturing Technology**
Presenter: Michael Daugherty, Assistant Professor
Department of Industrial Technology, Illinois State University
Normal, Illinois, U.S.A.

15:30-15:50 Tea Time

15:50-17:10 **How to Teach Construction Technology** (May 16)
Presenter: Richard Boser, Assistant Professor
Department of Industrial Technology, Illinois State University
Normal, Illinois, U.S.A.

How to Teach Transportation Technology (May 19)
Presenter: Michael Daugherty, Assistant Professor
Department of Industrial Technology, Illinois State University
Normal, Illinois, U.S.A.

May 17 and May 20

8:30-9:30 **Implementation of Technology Education: The Japanese Approaches**
Presenter: Dr. Shoji Murata, Professor of Technology Education
Kanazawa University, Kakumamachi, Kanazawa, Japan

9:30-9:50 Tea Time

9:50-10:50 **Design and Technology Education in England and Wales: Policy, Practice and Problems**
Presenter: Dr. Clare Benson, Director, School of Math, Science and Technology, University of Central England, Birmingham, England

10:50-11:00 Break

11:00-12:00 **"Third Wave" Transformational Leaders: Creating Solution Based Learning Focused on Math, Science, and Technology**
* Presenter: Dr. Warren Groff, Consultant and National Lecturer
Nova Southeastern University, Florida, U.S.A. (May 17)

Preparing for the Changes: From Industrial Arts t0 Technology Education (May 20)
Professor Sheng-Kun Cheng, Professor, Graduate Institute
of Industrial Arts Education, NKNU (Kaohsiung)

12:00-13:00 Lunch

13:00-14:00 **Teacher Preparation for Technology Education**
Presenter: Dr. Keith Blankenbaker, Associate Professor
Department of Industrial Technology Education,
The Ohio State University, Columbus, Ohio, U.S.A.

14:00-14:10 Break

14:10-15:30	**How to Teach Transportation Technology** (May 17) Presenter: Michael Daugherty, Assistant Professor Department of Industrial Technology, Illinois State University Normal, Illinois, U.S.A.
	How to Teach Construction Technology (May 20) Presenter: Richard Boser, Assistant Professor Department of Industrial Technology, Illinois State University Normal, Illinois, U.S.A.
15:30-15:50	Tea Time
15:50-17:10	**How to Teach Communication Technology** Presenter: Richard Boser, Assistant Professor Department of Industrial Technology, Illinois State University Normal, Illinois, U.S.A.

May 18 and May 21

8:30-9:30	**Revisions for the Senior High School Industrial Arts Curriculum Standards** Presenters: Dr. Chien Yu, Associate Professor and Chairperson Department of Industrial Arts Education, NTNU (Taipei) Dr. Wen-Gee Lo, Associate Professor and Director, Graduate Inst. of Industrial Arts Edu., NKNU(Kaohsiung)
	Instructional Design for the Course of Living Technology Presenters: Dr. Lung-Sheng Lee, Professor Department of Industrial Arts Education, NTNU (Taipei) Dr. Shyh-Ing Shieh, Associate Professor Department of Technology Edu., NKNU (Kaohsiung)
9:30-9:50	Tea Time
9:50-10:50	**The Implementation of Technology Education in German Schools** Presenter: Dr. Gerd Hopken, Professor Flensburg University, Flensburg, Germany
10:50-11:00	Break
* 11:00-	**"Third Wave" Transformational Leaders: Creating Solution Based Learning Focused on Math, Science, and Technology** Presenter: Dr. Warren Groff, Consultant and National Lecturer Nova Southeastern University, Florida, U.S.A. (May 21)
12:00	**General Discussions** **Conference Adjournment**

"THIRD WAVE" TRANSFORMATIONAL LEADERS

Creating Solution Based Learning focused on Math, Science, and Technology

in the Era of Smart Homes,
Wired Communities, Fast Systems, Global Networks,
and Fast Forward Leaders in a Borderless World

by

Warren H. Groff
Consultant and National Lecturer
Nova Southeastern University

International Conference on Technology Education
National Taiwan Normal University
May 16-18, 1994
and
National Kaohsiung Normal University
May 19-21, 1994

RESOURCE MANUAL

"THIRD WAVE" TRANSFORMATIONAL LEADERS

Creating Solution Based Learning
focused on
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"THIRD WAVE" TRANSFORMATIONAL LEADERS

Creating Solution Based Learning focused on Math, Science, and Technology

in the Era of Smart Homes,
Wired Communities, Fast Systems, Global Networks,
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by

Warren H. Groff
Consultant and National Lecturer
Nova Southeastern University

Industrial Arts Institute
National Taiwan Normal University
May 23, 1994

NATIONAL
TAIWAN
NORMAL
UNIVERSITY

PRINTING
TECHNOLOGY
DEPARTMENT

RESEARCH QUESTIONS

MISSION AND PROGRAM GOALS

CURRICULUM

UNIQUE INSTITUTIONAL CHARACTERISTICS

STUDENTS

FACULTY AND STAFF

FACILITIES, ORGANIZATION, ADMINISTRATION, BUDGET AND EVALUATION SYSTEMS

PROCEDURES

1. REVIEW OF LITERATURE
2. ANALYSIS OF EXISTING PROGRAMS
3. CONSULTATIONS, INTERVIEWS, AND QUESTIONNAIRES WITH PROFESSIONALS
4. INTERVIEWS WITH ADMINISTRATORS AND FACULTY
5. ANALYSIS OF INFORMATION TO PRODUCE THE STRATEGIC PLAN
6. REVIEW OF PLAN BY GRAPHIC ARTS EXPERTS AND ADMINISTRATORS
7. PRESENTATION OF THE PLAN TO THE MINISTRY OF EDUCATION

MISSION

INSTRUCTION

RESEARCH

SERVICE

MISSION AND PROGRAM GOALS

TEACHERS

ELEMENTARY EDUCATION

SECONDARY EDUCATION
JUNIOR HIGH
SENIOR HIGH
SENIOR HIGH VOCATIONAL
JUNIOR COLLEGES

HIGHER EDUCATION

ENGINEERS

TECHNICIANS

ELECTRONIC PREPRESS

INPUT
STORAGE
EDITING
COMPOSITION
OUTPUT

PRINTING

RELIEF OR LETTERPRESS

INTAGLIO OR GRAVURE

PLANOGRAPHIC OR LITHOGRAPHY

SCREEN

TECHNOLOGY

1981	PERSONAL COMPUTERS
1985	DESKTOP PUBLISHING
1989	DESKTOP PRESENTATIONS
1993	DESKTOP VIDEO-CONFERENCING

TEXTBOOK

SOFTWARE AND TEXTBOOK BUNDLE

CUSTOM TEXTBOOK

ONLINE TEXTBOOK AND ELECTRONIC HANDBOOKS

ONLINE MATERIALS: ARTICLES, SYLLABI, NOTES

CENTERS

SCIENCE EDUCATION CENTER

SPECIAL EDUCATION CENTER

MANDARIN TRAINING CENTER

COMPUTER CENTER

ENGLISH TRAINING CENTER

RESEARCH CENTER FOR EDUCATION

FRENCH TRAINING CENTER

TECHNICAL AND VOCATIONAL EDUCATION RESEARCH CENTER

IN-SERVICE TEACHERS' EDUCATION CENTER

STRATEGIC PLAN

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
MISSION AND PROGRAM GOALS					
CURRICULUM					
ACADEMIC SUPPORT					
EQUIPMENT					
FACULTY AND STAFF					
FACILITIES					
ORGANIZATION & ADMINISTRATION					
BUDGET					
EVALUATION					

Introduction to the Planning of the National Science and Technology Museum

The Planning Council

The project of building a modern Science and Technology Museum started in 1979. After long years of planning by various committees, a formal Council were formed in 1986, who is in charge of all planning and execution and reported directly to the Ministry of Education. At the present time the Planning Council has forty-five full-time staffs consisting departments in Research, Design, Engineering, General Affairs, Personnel and Accounting. The Council then compiled a Construction Plan to the Ministry, where the concepts of the Building, Exhibitions and future Education Activities were presented. The Plan was approved in 1988, and was revised in 1991. The total budget of this project was approved to be about three hundred million U.S. dollars.

The Building

The museum is to be constructed in the No. 6 Park of Kaohsiung city, at the southern part of Taiwan. The park consists of 19 hectares, and the four-story museum building is at the northern end of the park. Each story has a ceiling height of 9 meters to give enough room for exhibition. There are 21 exhibition halls, two theaters, a library, an audio-visual center, a restaurant and other necessary facilities. The total floor space is close to one million square feet.

The building is designed by a local architect firm, the Three-Man Architects. It has extra heavy loading, special high ceiling, and with no column in the exhibition halls, and with ice-storage air conditioning and full intelligent central control. The building is estimated to cost two hundred million U.S. dollars to build. It has been bid out for construction in 1989, and completed over 50% at the present time.

The building is expected to complete by September 1995, then the exhibitions shall be installed and begin to train personnels. We expect to open the museum by the Spring of 1996.

The Exhibitions

There will be eighteen permanent exhibits, They are:

1. World of Electronics
2. Power and Machines
3. The Computerized World
4. Children's Science Center
5. Chinese Achievements
6. Food Industry
7. Buildings and Environments
8. Energy Utilization
9. Transportation and Civilization
10. Metal Industry
11. Measurement and Technology Development
12. Computer and Communication
13. Mitigation of Natural Hazards
14. Air Navigation and Aerospace
15. The Utilization of Water Resources
16. Plastics and Rubbers
17. Clothing and Textiles
18. Biological Technology

These subjects were carefully selected not only to reflect the progress of the Chinese achievements in science and technology, but also concentrated on the hardwork of our people in the last forty years in Taiwan. The exhibits are mostly hands-on type to enhance educational effects, very few genuine artifacts are useed. However, collections are also important for this museum. The collection principles are being studied now.

The eighteen subject exhibits has been designed by distinguished designers from Japan, United States and England. The design work started at 1990, and are all completed. The fabrication of these exhibits shall start from June 1994. They are expected to complete by September 1995 and start to ship to the museum site for installation.

Other Facilities

Theaters: There are two theaters in this museum, An IMAX theater with 3-D projections and a computer aided multimedia theater.

Library: A small library containing 8,000 volumes of books had been planned. The purpose is to let visitors find further information on various technologies after seeing the exhibits.

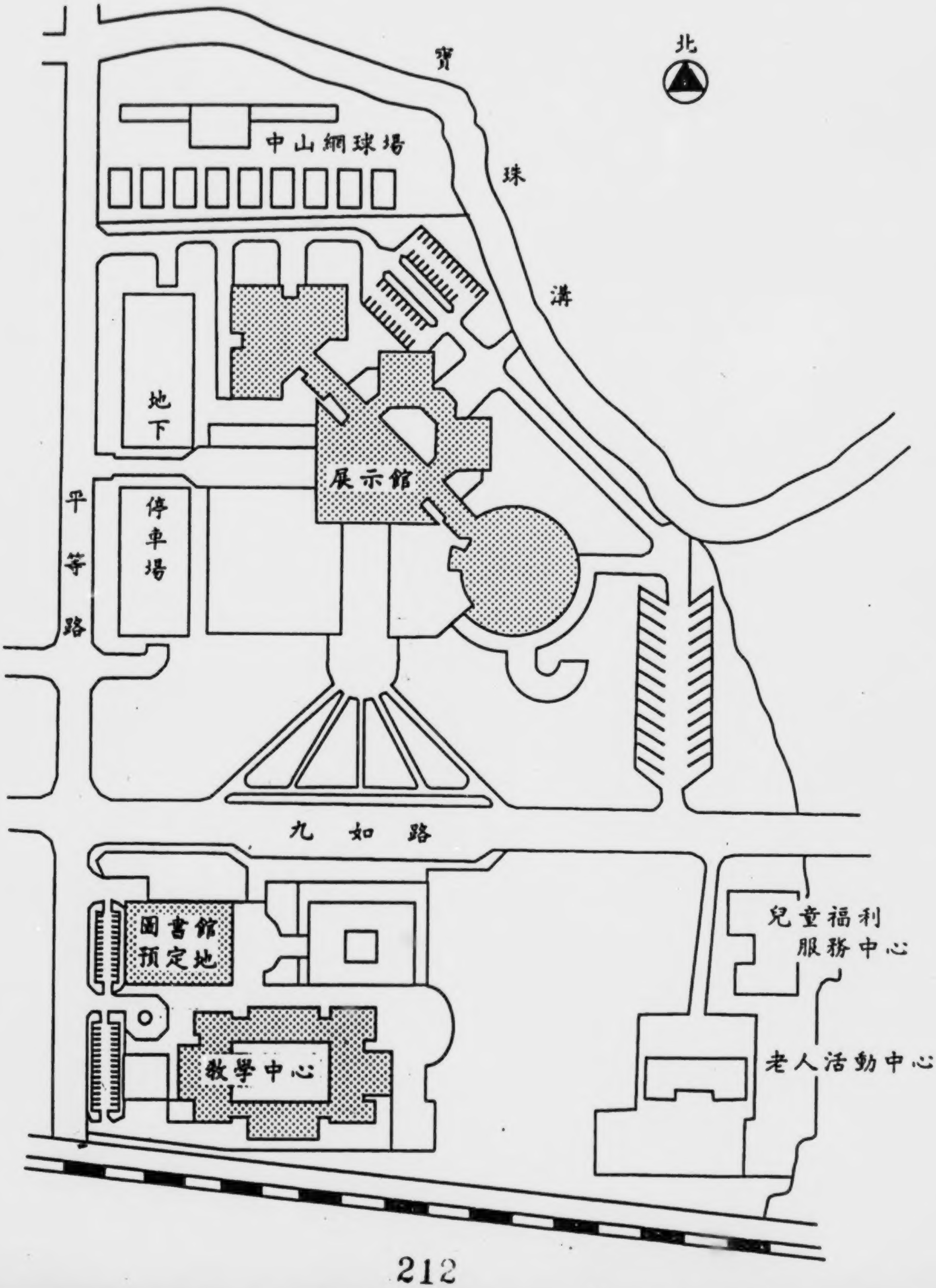
Audio-Visual Center: A small AV center is located adjacent to the library. The purpose is similar, to give visitors an easy access to further information.

Education Center: A separate building in the southern part of the park, where 10,000 sq. ft floor space is totally devoted for various educational programs. The purpose is threefold, to complement the school-education, to enhance social education, and to introduce computer education which is no doubt shall be the major trend in the future.

Restaurant: A large restaurant that may have as many as 1,000 seats has been planned. It has fast-food services as well as formal ones. It also serves as staff restaurant. At off-hour it is a coffee-shop for visitors to rest or to have group activities.

Gift Shop: A separate gift shop is located outside the museum. It aim to serve visitors as well as people just coming to the park.

圖二：基地配置圖



BUILDING SCENARIOS FOR EDUCATION IN SOUTHEAST ASIA: THE SEAMEO INNOTECH EXPERIENCE

PACITA I. HABANA, Ph.D.

A SEAMEO INNOTECH Publication -1993

SOUTHEAST ASIA MINISTERS
OF EDUCATION ORGANIZATIONS

2

REVIEW OF RELATED LITERATURE

Introduction

This review is divided into three parts. Part I is a brief account of the purpose, origins, and theories of futures study and its techniques and methods.

Part II, called *Current Practices in Futures Education*, focuses on the field of education as a subject of futures study and futures research. It is a review of organizations, movements and institutions concerned with and involved in Futures Education. It also presents various curricula on futures study, sometimes referred to as Futures-Related Curricula.

Part III is called Forecasts/Scenarios on the Future of Education. It is a presentation and/or collection of the available literature on images, concepts, scenarios, and visions of the future of education.

PART I: THEORIES ON FUTURES EDUCATION

For more than 25 years, "Futures" has been taught in schools, colleges and universities. Futures Education is not a radically new, untested departure. Over a period of 25 years, a number of wider futures-related broadly educational processes have developed. (Slaughter, *An International Overview of Futures Education*, 1991)

VIEWS OF THE FUTURE

Based on work done by James Robertson (1983), people's views of the future can vary radically depending on their underlying assumptions and values. The following five sketches of commonly held views of the future suggest that most people incline to one or the other of the following scenarios:

1. Business as Usual

   This view is held by those who argue that the future will be very much like it is today. In other words, there will be the usual alarms and worked out, either globally or for individual countries. Without such costing, realistic planning and analysis can hardly begin.

Financial Resources

UNESCO and the UNDP recently prepared a rough calculation of the cost of achieving universal primary school enrolment by 2000: $48 billion over the next 10 years, or between $4 and $5 billion if cost-effective methods are used. This figure implies that countries will have to increase their current budgetary outlays for primary education by about 50% during 1985-2000, an average annual increase of nearly 3% (compared with 1.7% a year over 1975-85). This does not sound overly ambitious. After all, this amount equals only two days of military spending in the industrial countries, or one week of military spending in the Third World, or about 2% of annual debt servicing by developing countries. However, the implications for some countries, especially those in Africa and others in the least developed category, need to be carefully watched. Their budgetary outlays for education may have to be more than doubled at a time when their capita GNP is projected to be flat or declining. In order to achieve universal primary school enrolment by the year 2000, added spending of $5 billion a year will be required.

The OECD/CERI cross cultural projects on human resource developments have highlighted some important emerging conceptual and operational shifts in skill formation.

According to Ford (1990), these are shifts with important policy and program implications for individuals, enterprises, unions, the public sector and governments. However, the pace and pervasiveness of these shifts varies considerably between and within the participating countries.

Key shifts are:

Shifts in Skill Formation

From	*To*
education & training	skill formation
retraining	recurrent skill formation
on-the-job training	on-the-job learning
individual training	group and network learning
occupational skilling	career skilling
functional skilling	integrated skilling
narrow skilling	broad skilling
craft mysteries	shared learning
technical skilling	socio-technical skilling
competence	performance
learning leave	learning time
lean organizations	skill reserves
skill demarcations	skill integration
skill profiles	skill dynamics
occupational structures	career dynamics
division of labour	balance of skills
labour markets	skill markets

IV. EDUCATION AND THE ECONOMY

Education and the Economy

According to Groff, (1984) the industrial nations of the world are in the turbulent times of a structural shift from an industrial society based on physical productivity of material goods to a technological society based upon the exchange of ideas, knowledge, and information. (p. 43)

✱

Numerous issues will be important in the years ahead, according to Groff, but no issue will be more important than the development of the intellectual capital and the implementation of planning and management systems that tighten the relationship between education and the economy. (p. 43)

Groff claims that "what is needed are visions or conceptual frameworks to guide our policy-and decision-making processes and to which we can link purposeful human activity." (p. 44)

Hallak (1991) stresses the need for policy choice and priority in resource allocation in most Asian countries. What he says is vital for policy makers as they prepare educational plans. He divides policy choices into three kinds:

1. Global or intersectoral choices which are made between the interests of education and those of other social or economic factors supported by the government.
2. Sectoral choices which are made among educational objectives, each of which may in itself be unanimously regarded as legitimate, but all of which cannot be achieved at the same time.
3. Sub-sectoral choices which cover the ways and means, approaches, methods and delivery of services that will best be achieved in a given objective or target once it has been agreed upon.

Areas of choice include financing, provision, administration and regulation.

Hallak's summary of guidelines on the role of government and other priorities in education (Table 2) and sectoral priorities (Table 3) are reproduced as additional guidelines for policy makers.

Table 2. Summary of guidelines on the role of government and other priorities in education

Area of Action	Criteria for Gov't. Action	Government	Recommendations Local authorities	Private
(i) Financing	Equity/ Social Benefit	• Finance to equalize opportunities • Finance the most "public" i.e., highest social benefit	• Mobilize resources to direct collaboration • Finance to monitor government implementation	• Cost/recovery for the private sector • Supplement public finances
(ii) Provision	Cost effectiveness	• Seek partnership between the public and the private sectors;	• Partnership	• Partnership; Provision
(iii) Administration	Costs and trade-offs	• Target and monitor public support;	• Direct administration for NFE, primary	• "Federal" structures of private entities
(iv) Regulation	Quality/ norms	• Regulate delivery systems; • Limit the consequences of market failures	• Consultative	• No role to be recognized

---

Source: Adapted from J. Hallak, Investing in the Future: Setting Educational Priorities in the Developing World, 1991

REFERENCES

Ante, Fr. Jose D. *The Future of CEAP*. CEAP Perspective, ISSN 0026-2160, 1991.

Barnaby, F., General Editor. *The Gaia Peace Atlas* (Survival into the Third Millennium). Gaia Books Limited, London, 1988.

Bhola, H.S. *"World Trends and Issues in Adult Education."* Prepared for the International Bureau of Education Monograph Series Educational Sciences. UNESCO, 1988.

Brown, L. et. al. *State of the World 1991*. Sydney, Allen & Unwin, 1990.

Canadian School of Management. Adult Education. University Without Walls International Council. *Exploration of Future Education Needs of Adults*., Vol. 4, No. 2, 1983.

Carague, Ofelia M. "Computer Education in SUCS: Issues and Prospects." *Trends, Trimestral Journal of Ideas*, Polytechnic University of the Phil. 1990, No. 1.

CIRI. Information Technology and Personal Learning.

Cleary, Martha. *Manufacturing A Future. Questioning The Future*, Commission for the Future, Occasional Paper No. 1, Dec. 1985.

Congressional Commission on Education. *Making Education Work: An Agenda for Reform*. Manila and Quezon City, Philippines: Congress of the Republic of the Philippines, 1991.

Cruz, de la Leonardo B. "The Future of Education in Asia and the Pacific." *Education Quarterly* Vol. XXXV, Nos. 3 & 4. Jul-Dec, 1988.

Dalkey, N. and Helmer, O. "An experimental application of the Delphi Method to the use of experts, *Management Science*, No. 9, 1963.

Dauncey, G. *After the Crash: The Emergence of the Rainbow Economy*. Green Print, 1989.

Department of Education, Culture and Sports Planning and Programming Division. "A Glimpse into the Educational System of the Philippines." *Educational Scenario for the 21st Century*. Dept. of Education, Culture and Sports. Third edition, 1990.

Eisler, R. *The Chalice and the Blade: Our History, Our Future*. Mandala/Unwin, 1990.

Faure, Edgar et. al. *Learning to Be: the World of Education Today and Tomorrow*. Paris, UNESCO, 1972.

Fayez, Mina D. *Trends of Change in School Curricula into the Twenty-first Century*. WCCI Forum, Vol. II, No. 2, 1988.

Fernandez, J. Rev. "The Priest in the Year 2000." *Futuristics, The Journal of the Philippine Futuristics Society*. Vol. I, No. 1, July 1983.

Ford, G.W., *Rethinking Skilling for a Restructured Workplace*. Commission for the Future, 1990.

Freeman, Christopher & Jahoda, Marie, eds. *World Futures: The Great Debate*. Martin Robertson, 1978.

Green Forum Philippines. *Creating a Common Future*. Initiative for Sustainable Development, 1990.

Godet, Michel. *Scenarios and Strategic Management*. Butterworth Scientific Ltd., 1987.

Goldstein, Carl; Bauer, John; Mason, Andrew. "ASIA 2010: The Power of People" in *Far Eastern Economic Review*, Vol. 148, No. 148, No. 20, pp. 27-58, 1990.

Groff, Warren H. "High Tech- High Touch Collaboration in Helping the United States to Develop Learning Communities of the Future." Paper written for the VTD specialization seminar for 1991.

____________________. *Education and the Economy: Critical Mass*. AACJC Journal. November 1984.

RETHINKING, RESTRUCTURING, REVITALIZING

FROM POST - INDUSTRIAL ERA (PIE)

TO

EARLY TECHNICAL ERA (ETE)

TO

ADVANCED TECHNICAL ERA (ATE)

1970s 1980s 1990s 2000s 2010s

GOALS

To **RETHINK** The Learning Enterprise *in an advanced technical era.*

To **RESTRUCTURE** *human resources development systems to produce knowledge workers in a global era.*

To **REVITALIZE** "The American Dream" *through* "Learning Communities of the 21st Century."

FAR EAST **P.R.** **JAPAN**	**CANADA** **U.S.** **MEXICO**	**EUROPE** **E.C.** **GERMANY**

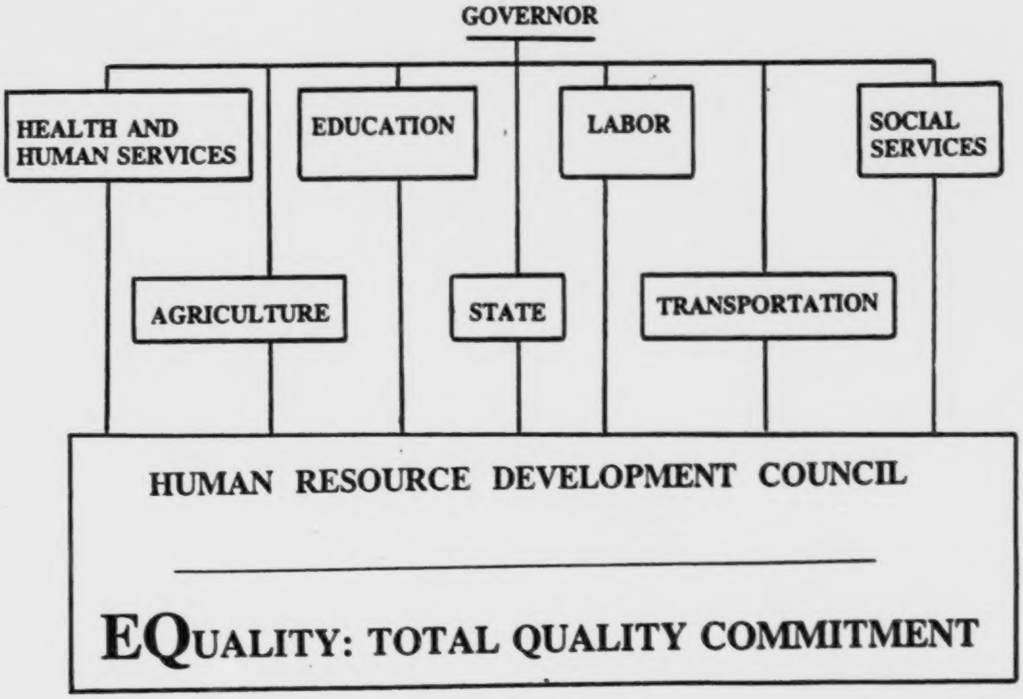
GLOBAL COMPETITIVENESS

GLOBAL REGION	NOW EARLY TECHNICAL ERA	2000 ADVANCED TECHNICAL ERA
EUROPEAN COMMUNITY		
NORTH & SOUTH AMERICA		
PACIFIC RIM		

PRODUCTIVITY: MANUFACTURING VS. SERVICES

ESTABLISHMENTS	PERCENT OF ECONOMY	INCREASED PRODUCTIVITY 1980-1990	PRICE INCREASE
MANUFACTURING	20.0%	3.5%	3.1%
SERVICES	50.0%	0.2%	5.2%
	1980-1986	+0.6%	
	1986-1990	-0.5%	

Robert J. Samuelson. "A Shakeout in Services." Newsweek. Vol. CXVIII, No. 6, August 5, 1991, pp 64-65.


GOVERNOR
HEALTH AND HUMAN SERVICES
EDUCATION
LABOR
SOCIAL SERVICES
AGRICULTURE
STATE
TRANSPORTATION
HUMAN RESOURCE DEVELOPMENT COUNCIL
EQUALITY: TOTAL QUALITY COMMITMENT

VISIONS

PAST	TODAY	21st CENTURY
1940s - 1980s	1990s	2000 - 2020

TREND

--->

EXTRAPOLATION

DREAMS & VISIONS

<--

EQUALITY & QUALITY

RETHINKING, RESTRUCTURING, REVITALIZING

	1991-92	1992-93	1993-94	1994-95
CASEY FDN				
RJR NABISCO				
AMERICA 2000				
OERI				
CATHOLIC SCHOOLS FOR 21st CENTURY				
EDISON PROJECT				
BLUEPRINT 2000				

ALTERNATIVE EDUCATION

1. Contemporary Traditional Education (CTE) Models

    a. Within a CTE Classroom
    b. Within a CTE School
    c. Within a Single Subject - Math, Science, Humanities
    d. Between Subjects - Math and Science, English, and Social Sciences
    e. Between Tracks - Academic and Vocational
    f. Between Schools Within a District - Level, Magnet Schools
    g. Between Districts - "Choice"
    h. Within a State - North Carolina School of Arts
    i. Special Focus - "At-Risk", Drop Out Prevention, Disciplines, Articulated, Differentiated/Developmental Curriculum, Learning Styles, Pregnant Females, Substance Abusers, Cultural Diversity, Substance Abuse, Personal Abuse
    j. Between Layers - Middle College High School

2. Partial Technological Deschooling (PTD) Models

    a. Distant Learning Systems
    b. Apple Classrooms of Tomorrow - Elementary Level
    c. IBM's School of the Future - Secondary Level
    d. The Education Utility

3. Collaborative Lifelong Learning (CLL) Models

    a. Cooperative Education
    b. Clinical Affiliations
    C. Compacts - Academic Credit for Public Service
    d. Partnerships

4. Solution Based Learning (PBL) Models

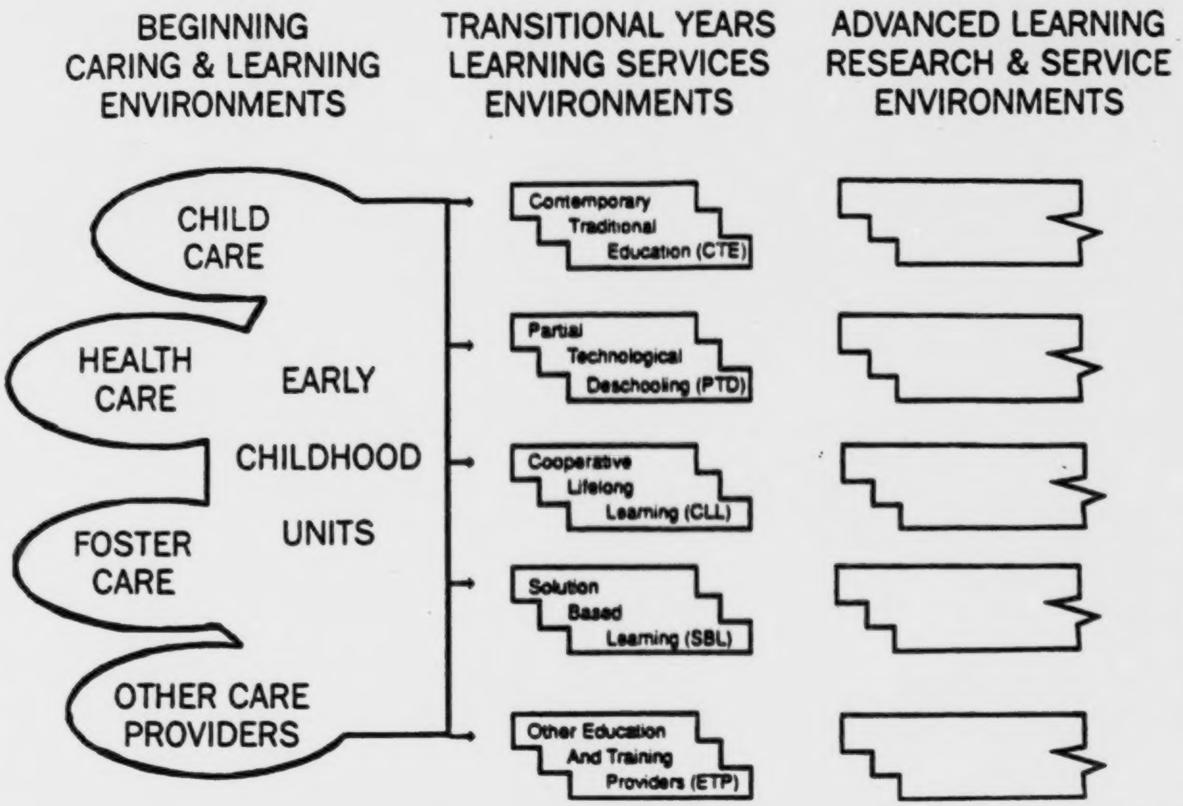
5. Other Education and Training Provider (ETP) Models

    a. Nontraditional Private Providers
    b. Corporate Sponsored Providers
    c. Home Based Instruction, Correspondence

6. Role of Support Units

    a. Library and Instructional Materials
    b. Instructional Development and Media
    c. Student Assessment, Counseling, Diagnostic Services
    d. Administration
    e. Boards-Advisory, Committees, Directors, Foundations, Trustees

INFO ERA LEARNING COMMUNITIES OF THE FUTURE


BEGINNING CARING & LEARNING ENVIRONMENTS
TRANSITIONAL YEARS LEARNING SERVICES ENVIRONMENTS
ADVANCED LEARNING RESEARCH & SERVICE ENVIRONMENTS
CHILD CARE
HEALTH CARE
FOSTER CARE
OTHER CARE PROVIDERS
EARLY CHILDHOOD UNITS
Contemporary Traditional Education (CTE)
Partial Technological Deschooling (PTD)
Cooperative Lifelong Learning (CLL)
Solution Based Learning (SBL)
Other Education And Training Providers (ETP)

TOWARD LEARNING COMMUNITIES OF THE FUTURE

EARLY 1990s **MID 1990s**

Conditions of Society

Trend Analysis

&

Extrapolation

⇒

Conceptual Frameworks

1. **CTE**
2. **PTD**
3. **CLL**
4. **SBL**

⇒

Design

&

Experiment Phase

TOTAL QUALITY

- COMMITMENT
- LEARNING
- INVOLVEMENT
- IMPROVEMENT
- EDUCATION
- MANAGEMENT
- CONTROL

TOTAL QUALITY COMMITMENT

CONTINUOUS IMPROVEMENT OF QUALITY

CENTRAL FOCUS ON THE CONSUMER

SYSTEMATIC IMPROVEMENT OF OPERATIONS

OPEN WORK ENVIRONMENTS - ATMOSPHERE

LONG-TERM THINKING

HUMAN RESOURCES DEVELOPMENT

COORDINATION AND LEADERSHIP

Robbie Lee Needham. "Total Quality Management: An Overview." Leadership Abstracts. Laguna Hills, CA
League of Innovation. Vol. 4, no. 10, July 1991

BUILDING COMMUNITIES AND NEIGHBORHOODS

PRELIMINARY	EARLY FALL	LATE FALL	EARLY WINTER	LATE WINTER	SPRING
Plan to Think Strategically	Internal Audit	External Assessment	Alternative Scenarios	Preferred Scenario	Strategic Plan
Plan of Action					
Scope of Work		Demographic	Contemporary		1. Health
Levels of Analysis		Social	Traditional		
Org. Structure		Economic			
					2. Learning
Planning Room					
Materials		Establishments & Jobs (Workforce)			
Research					3. Culture
			Partial		
Data Books					
		Technology	Technological		
Communications					
					4. Work
Retreats					
Workshops - Technology		Global Change			
					5. Arts
Format of Products			Technology		
Focus on Creativity		Impact	Intensive		

STRATEGIC PLAN

FOR IMPROVED QUALITY OF LIFE

	YEAR 1 RAISE AWARENESS	YEAR 2 AROUSE INTEREST	YEAR 3 DEVELOP UNDERSTANDING	YEAR 4 INCREASE COMMITMENT	YEAR 5 TOTAL DEDICATION
HEALTH					
LEARNING					
CULTURAL					
WORK					
ARTS					

ALTERNATIVE "CHOICE' HRD SYSTEMS

CONTEMPORARY TRADITIONAL EDUCATION

PARTIAL TECHNOLOGICAL DEINSTITUTIONALIZATION
and
TECHNOLOGICAL INTENSIVE DEINSTITUTIONALIZATION

COLLABORATIVE LIFELONG LEARNING

SOLUTION-BASED EDUCATION

OTHER EDUCATION & TRAINING PROVIDERS

STRATEGIC THINKING: MAXIMUM SYNERGISM =

LEADERSHIP THROUGH

OD + HRD + TQC

Pre Program Audit	Year 1	Year 2	Year 3	Year 4	Year 5	Post Program Audit
Organizational Development						
Mission Primary Program Secondary Program Climate/Culture Institutional Effectiveness						
Human Resources Development						
Conceptual Interactive Technical						
Hoped for Outcomes	↔					Actual Outcomes

DEDICATION

COMMITMENT

UNDERSTANDING

INTEREST

AWARENESS

RETHINKING, RESTRUCTURING, REVITALIZING

- **RETHINKING**
  - **QUALITY**
  - **ACCESS**
- **RESTRUCTURING**
  - **WITHIN**
  - **BETWEEN**
- **REVITALIZING**
  - **LEADERSHIP**
  - **HUMAN RESOURCES DEVELOPMENT**

APPENDIX C

Development of a Vision for Communications in a Total Quality Training Facility, Fleet Training Center, San Diego - Gail J. Palmisano

ANALYSIS OF HUMAN RESOURCES DEVELOPMENT AT FLEET TRAINING CENTER, SAN DIEGO

Human Resources Development

Gail J. Palmisano
Fleet Training Center, San Diego

Warren H. Groff, Ed.D.
Orange County Cluster

A seminar paper presented to Nova Southeastern
University in partial fulfillment of the
requirements for the degree of
Doctor of Education

Nova Southeastern University
April, 1994

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F. Evaluations Quality Management Board Charter

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H. Team Training Process Improvement Quality Management Board Charter

I. Areas of Human Resources Development Interest

THE COMMAND AND THE MISSION

Fleet Training Center (FLETRACEN), San Diego is rapidly becoming the west coast hub for U. S. Navy general skills training comprised of general shipboard and advanced technical courses. A fourth echelon command, it is one of five training commands in the San Diego area which fall under the control of Commander, Training, Pacific (COMTRAPAC), a two-star admiral. COMTRAPAC, in turn, reports to the Chief of Naval Education and Training (CNET) in Pensacola, Florida. CNET reports to the Chief of Naval Operations (CNO).

Under the command of a Navy Captain, FLETRACEN boasts six training departments: Operations, Weapons, Engineering, Auxiliary Engineering, Firefighting/Damage Control School, and the Advanced Electronics School. Approximately 600 instructors teach 170 courses of instruction to upwards of 50,000 students annually. Students include foreign military students from more than ten different countries.

The FLETRACEN mission is to provide timely, safe training to the fleet. The training provided is high quality high risk (small arms, surface rescue swimmer, firefighting, etc.) and non-high risk classroom and laboratory training. Courses range from one day to twenty-six weeks in length. The training is assessed as high quality based on student critiques and high marks from inspection teams. The mission, vision, and guiding principles, as amended, are provided as Appendix A.

GROWTH

The Advanced Electronics School is the latest addition to FLETRACEN. The department transferred from Service Schools Command (SSC), Naval Training Center (NTC), San Diego on 1 March 1994 as part of the 1993 Base Realignment and Closure (BRAC) process. Components of SSC will be moved to NTC, Great Lakes, FLETRACEN, San Diego, and elsewhere over the next few years. Due to the large number of additional courses currently scheduled to transfer to FLETRACEN, a military construction (MILCON) project is planned to house some of them.

In the summer of 1993, FLETRACEN acquired a Detachment (DET) on Treasure Island (TI), San Francisco, CA as part of the same process. FLETRACEN DET TI will remain under FLETRACEN until DET TI's scheduled closure at the end of this decade.

In addition to the training departments mentioned above, FLETRACEN is the home of all personnel attached to west coast precommissioning (PRECOM) units (ships in the process of construction which are not yet habitable), the west coast CNET Electronic Schoolhouse (a video teletraining facility), and of the Fleet Integration Teams (FIT's) for the west coast. The FIT's are comprised of the women assembled to report to each combatant for the first embarkation of females. They receive basic shipboard training together.

Many proposals for further realignment of Navy training are currently under consideration. Regardless of which model is chosen, FLETRACEN, San Diego will undoubtedly remain the focal point for west coast shore-based training due to its modern facilities and its location on the 32nd Street Naval Station, a major homeport of the Pacific Fleet.

PERSONNEL

The FLETRACEN team is a mixture of Department of Defense (DOD) civilians, military and contract personnel. There has been a DOD civilian hiring freeze for some years, and that situation is not expected to change in the near future. Some positions are "gapped" (not filled). In many instances, new instructors arrive to teach courses which have been cancelled. The command teaches several courses for which there is no authorized manpower ("out of hide"), and some of the support functions are handled by excess instructor personnel. There is a new, computerized manpower management system which is not fully implemented (Total Force Manpower Management System, or TFMMS), and the command has no current manning document and no full time or fully trained manpower officer.

These problems have had minimal impact to date because the command is currently overmanned. This can happen because individual people are ordered to FLETRACEN for two to three year tours of duty. They may remain onboard past the point where the billet they were ordered in to fill has been cut (due to personnel or budget restraints) or cancelled (due to course cancellation related to obsolete equipment, etc.).

MANPOWER MANAGEMENT

The DOD is "rightsizing" to capitalize on decreased national defense needs. For military managers, "rightsizing" means meeting mission requirements with fewer resources. In many cases, this is a reasonable requirement, but, too often, the money evaporates before the plan is formulated and passed to the operators. Despite many disclaimers to the contrary, there is still ample opportunity to recreate the "hollow force" of the 1970's.

FLETRACEN has a manpower document which was rendered obsolete by an efficiency review (ER) completed in 1992. In the ER process, the command under review is restructured for optimal efficiency after scheduled course cancellations. Once the ER is approved, a new manpower document is generated. Unfortunately, after two years of waiting, this has not yet occurred.

Manning is managed by the Department Heads under the Executive Officer (a U. S. Navy Commander) with the help of the Administration Officer. Manning is the tactical level of the manpower picture because it encompasses the procedures which ensure personnel with the correct ratings or designators are onboard to fill each billet allocated in the manning document. This process works relatively smoothly when the manpower document is current.

Manpower is the strategic side of the personnel problem. It deals with end strength according to billets allocated and the percentage of billets authorized to be filled during peacetime and during war. In a training command, it is relatively easy to determine how many instructors will be required to teach the courses assigned based on the student-to-instructor ratios required by each course, the minimum number of instructors required to teach the course, and the number of convenings required each year to meet a given anticipated student throughput. Unfortunately, budget cuts enter the picture right about here.

FLETRACEN, with no current manpower document (no ER approval, hence, no new document), has been directed to make a series of billet cuts, some of which have been approved, and some of which have not. These cuts were directed by the chain of command, and are scheduled to take effect from Fiscal Year 1994 through Fiscal Year 1998. Determining which billets should be cut would have been reasonably simple had FLETRACEN been provided with customer training priorities, equipment retirement schedules, and anticipated student throughput. This information was not provided, and it might have been perceived as inappropriate for the "schoolhouse" to attempt to gather this information directly from customers without using the chain of command. FLETRACEN was, therefore, placed in the uncomfortable position of having to identify sacrificial billets with impact statements based on "best guess". Additionally, FLETRACEN knows it has "lost" a finite number of billets (some of which will "disappear" the year after they "come online"), but, without a current manning document, there is no way to match these cuts to individual billet sequence codes (BSC's). The impact of this problem is that, while the command may know it is losing, for example, two advanced firefighting instructors, there is no way to know or to indicate whether the billets removed will be Petty Officers Second Class, Senior Chief Petty Officers, one of each of two ratings, etc.

The billets identified and offered for cutting to date were identified by a planning tool created by the Head Instructional Systems Specialist (a GS-13 civilian) which correlates billets to courses and indicates cross-utilization of instructor assets. It simply shows the number of instructors on one side and the courses taught by that group of instructors on the other. FLETRACEN was able to make statements such as, "If we cut one billet from this instructor cluster of six instructors, the remaining five instructors can continue to teach the three courses to which they are collectively assigned with a reduction in course convenings of only 'X' per year."

In the face of an anticipated requirement to identify further billets to cut, the Director of Training recently obtained the lists of ships scheduled to be decommissioned through the end of the decade and forwarded her intention to base student throughput for the "out years" (end of the decade) on a percentage decrease in the number of commissioned ships stationed on the west coast. The use of this crude tool was proposed in the hope that a refined tool would be offered in its stead. A straight percentage cut does not take the type of equipment installed on each ship type into account and does not account for the requirement to perform training in conjunction with Foreign Military Sales (FMS). Under the FMS program, training is sometimes sold to foreign navies on equipment no longer used by the United States Navy.

This creates a manpower quandary in that billets it might normally be tempting to cut must be retained to meet this requirement.

The manpower issues are, thus: no full time or fully trained manpower officer, no authority to hire a full time manpower officer, no current manning document, no way to anticipate what further cuts may be mandated or when they may be made, and no planning tool to use on which to base cuts. Before essential services can be offered to personnel, it is paramount that personnel required to fulfill the mission be identified and become members of the organization. This aspect of human resources planning is not currently under control.

FLEET TRAINING CENTER STRATEGIC GOALS

In step with all U. S. Navy commands, FLETRACEN is in the process of implementing Total Quality Leadership (TQL), the Navy's version of Dr. Deming's Total Quality Management (TQM). The FLETRACEN Executive Steering Committee (ESC) held a strategic planning conference 19-21 October 1993. The Strategic Planning Flow Chart is provided as Appendix B, and the condensed minutes of the conference are provided as Appendix C. Prior to the conference (a retreat at a remote facility), the FLETRACEN ESC formulated the command's mission, vision and guiding principles, conducted an internal survey, and identified a suitable external customer survey (that of TRAPAC) for FLETRACEN use. Ideally, FLETRACEN should have conducted its own survey. TRAPAC performs no instruction, so its survey did not ask questions about classroom arrangement, student comfort, etc. It was decided, however, that the customers (mostly ships) would balk at answering a second survey so soon after the TRAPAC survey.

At the retreat, the ESC formulated strategic goals based on the following processes: conduct of team training, curriculum development, and personnel and administrative management. A Quality Management Board (QMB) was chartered after the retreat to address each goal. In the case of personnel and administrative management, an existing internal communications QMB was retained and a second one was chartered. These QMB's have recently formed and are completing team skills training. The Team Formation Flow/Decision Chart is included as Appendix D and the QMB Charters are included as Appendices E through H. A document containing the strategic plan has not yet been produced.

FLETRACEN has adopted a two-pillar approach to TQL. Strategic issues are researched under the Executive Steering Committee (ESC) utilizing QMB's and Process Action Teams (PAT's) chartered by the QMB's. Tactical, or day-to-day issues are addressed by QMB-like teams called Quality in the Daily Workplace (QIDW) teams. The difference is that the QMB's are chartered by the ESC and cut across departmental boundaries. The QIDW's are formed within departments, divisions, or work centers to use TQL tools to solve problems at the lowest level. A feeder mechanism is in place to report solutions to the ESC for dissemination and inclusion in the management history files to prevent duplication of effort.

TQL training is offered in house by trained facilitators. Most command members are scheduled to receive the workshop "Fundamentals of TQL" (three days) by the end of Fiscal Year '94 (September 1994). Some command members also attend the three day "Quality in the Daily Workplace" (QIDW) workshop and the "Team Skills" workshop. Despite commitment to TQL on the part of senior management, a large investment of time for training, and TQL discussion groups, a great deal of skepticism is still extant.

RESOLUTION OF THE MANPOWER PLANNING PROBLEM

The internal and external surveys focused on staff and customer needs. The strategic retreat identified critical processes based on the surveys. The manpower problem is conspicuously absent from the strategic plan. This may be due to the fact that the requests to cut billets had not started in earnest prior to the October 1993 ESC retreat. The problem would not have been identified by external customers and few internal customers would have been aware of the extent of the problem. Upper management, however, has long been aware that this problem has adversely affected good planning. This highlights the fact that a survey or a consensus cannot replace the knowledge of upper management and it can be dangerous to fall into the "cookbook approach" trap when performing strategic planning. At a minimum, the strategic plan should have been formulated with the realization that the command's ability to carry out the mission itself might be in jeopardy due to inappropriate manning in the future.

The manpower problem at FLETRACEN cannot be solved at the fourth echelon level. Repeated pleas for a timely resolution have gone unheeded. With this is mind, the best course of action is to continue to make tactical adjustments to manning, as required, and to address the human resources issues which are under the control of the training command. These areas are highlighted in Appendix I.

REFERENCES

Fleet Training Center, San Diego Executive Steering Committee. (1993-94). ESC meeting minutes. Unpublished minutes.

Groff, W. H., Ed.D. (1988-89). Toward the 21st century: Preparing strategic thinkers in vocational, technical, and occupational education. Abstract. (ERIC Document Reproduction Service No. ED 319 882)

Palmisano, G. J. (1993-94). Executive steering committee meetings, billet cut proposals and base realignment and closure guidance. Unpublished personal notes and files.

U. S. Navy instruction. CENCOMINST 12000.1A Civilian personnel policies and procedures manual

U. S. Navy instruction. FLETRACENSDINST 5400.1N Standard organization and regulations manual

APPENDIXES

APPENDIX A

Fleet Training Center's Mission, Vision and Guiding Principles

FLEET TRAINING CENTER'S MISSION STATEMENT

Fleet Training Center's mission is to effectively provide the training and support requirements of our customers and chain of command by producing highly trained students, quality services and dynamic instruction in a safe learning and working environment.

FLEET TRAINING CENTER'S VISION STATEMENT

Our vision is a dynamic training command, committed to personal excellence, which utilizes the latest technology for safe and efficient training, while remaining sensitive to our environment.

GUIDING PRINCIPLES

Our command values include:
- Quality of education and training
- Welfare of our people
- Open and effective communication
- A non-threatening environment
- Personal excellence
- Integrity, trust and respect
- Innovation
- Rewards for our people

To obtain our vision we will:
- Develop curriculum to remain responsive to customers' dynamic requirements.
- Apply our resources to our customers, the environment, and our chain of command through:
  1. Maximum utilization of quality instructors and support staff to meet training requirements.
  2. Optimization of facilities, material, and fiscal resources.
- Modernize teaching and support technologies.

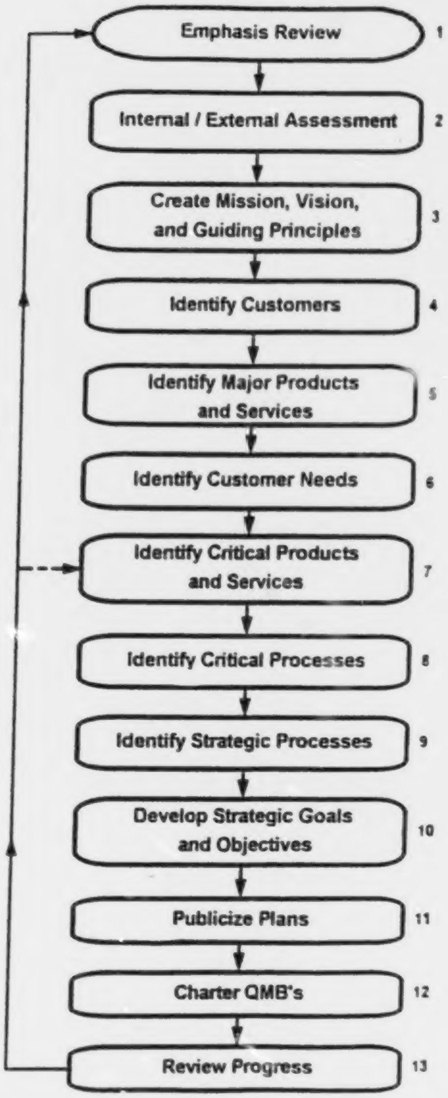
APPENDIX A (Cont.)

WE ARE COMMITTED TO:

- Our customers
- A safe working environment
- Team work
- Challenging and stimulating staff and students
- Actively supporting Navy programs and policies
- Decision making based on mission and not old habits or parochialism
- Maintaining the chain of command
- Complying with government regulations and fiscal guidelines
- Reviewing command projects quarterly
- Ensuring directives are accurate

APPENDIX B

Strategic Planning Flow Chart


Emphasis Review
1
Internal / External Assessment
2
Create Mission, Vision, and Guiding Principles
3
Identify Customers
4
Identify Major Products and Services
5
Identify Customer Needs
6
Identify Critical Products and Services
7
Identify Critical Processes
8
Identify Strategic Processes
9
Develop Strategic Goals and Objectives
10
Publicize Plans
11
Charter QMB's
12
Review Progress
13

NOTES

APPENDIX C

Strategic Planning Conference

FLEET TRAINING CENTER, SAN DIEGO (FLETRACEN)
ESC STRATEGIC PLANNING CONFERENCE
ONSITE MINUTES

DAY ONE/19 OCT 1993

STEP 1 OF STRATEGIC PLANNING PROCESS, REVIEW OF PURPOSE, DIRECTION, GROUNDRULES:

Strategic planning purpose:
Guide leaders of an organization to envision its future:
-create future based on customer needs
-provide framework to focus improvement efforts
-optimize organization and systems
-provide guidance for day-to-day decisions

Concerns and expectations of ESC:
1. Written strategic goals (2-4 strategic goals)
2. Understand the process for developing these goals
3. Roadmap for the future
4. Develop strategic vs. tactical goals
5. Apply TQL tools in our planning
6. Commitment to strategic goals
7. Reasonable consensus by ESC in making decisions

Groundrules:
1. Open participation
2. Observe dead-horse rule
3. Take breaks approximately every 60 minutes for 10 minutes
4. Lunch will last approximately 1 hr. and 15 min.

STEP 2, REVIEW AND PRIORITIZATION OF INTERNAL/EXTERNAL ASSESSMENT FINDINGS:

The group was tasked with deriving the six most important factors impacting the future of FLETRACEN. This was done by transferring choices from the answers to the ESC interview questions to the categories below, then making choices regardless of category:

APPENDIX C (Cont.)

STRENGTHS WEAKNESSES OPPORTUNITIES THREATS

The choices were posted on the board and members were asked to again chose the six items that they believe will most impact FLETRACEN in the future in a gradual weeding process. The results were again tabulated, resulting in eight factors. The groups then derived six planning assumptions from the eight factors. FLETRACEN will:

a. Be provided with "qualified personnel " and adequate physical facilities.
b. Employ TQL principles from the top down.
c. Persevere and remain flexible in the face of change to provide quality training.
d. Eliminate barriers to provide the latest Technical Training Equipment (TTE), training aids and curriculum to meet customer needs.
e. Improve communications with our internal and external customers.
f. Incorporate honor, integrity, commitment and courage throughout the command and strive to eliminate fear of reprisal.

Critical success factors may be derived from the planning assumptions. A critical success factor is a capability the command must possess to do well in the future. In light of the planning assumptions, what capabilities must the command possess to be successful in the future?

FLETRACEN will:

-Provide stringent controls for personnel management and futuristic monitoring of physical plant requirements and adequacy.

-Make TQL a high priority by creating a viable atmosphere/environment conducive to TQL and providing initial and ongoing TQL training.

-Persevere and remain flexible in the face of change to provide quality training.

APPENDIX C (Cont.)

-Proactively address inhibiting training issues through:
  -Active command involvement
  -Quality instruction
  -Quality instructors
  -Unsolicited input to curriculum development bureaucracy
  -Implement latest technology changes to TTE, training aids (TA's) and curriculum
  -Command attention and monitoring of curriculum modification through tickler systems

DAY TWO/20 OCT 93

Continued from Day One, developing Critical Success Factors from the two remaining planning assumptions

FLETRACEN will:
  -Establish and maintain smooth two-way communications up and down the chain of command, and with external customers.
  - Exploit new technologies for smooth communications between external and internal customers and suppliers.

FLETRACEN will:
  -Uphold Navy Core Values through leadership and education.

STEP 3, CREATE MISSION, VISION, AND GUIDING PRINCIPLES:

The group reviewed the previously promulgated statement.

1. Mission statement: Determined to be adequate
2. Vision statement: Determined to be adequate
3. Guiding principles:
  a. Command values: Determined to be adequate
  b. First sentence of obtaining our vision was amended to: "Develop curriculum to remain responsive to customers' dynamic requirements."
  c. "We are committed to" statement was determined adequate in meaning but needs grammatical correction

APPENDIX C (Cont.)

STEP 4. IDENTIFY CUSTOMERS:

1. Crews of ships and aircraft
2. Satellite training sites
3. Staffs
4. Commander, Training Command Pacific (COMTRAPAC)

STEP 5. IDENTIFY MAJOR PRODUCTS AND SERVICES:

1. Mobile Training Teams (MTT's)
2. Team Training
3. Curriculum development
4. Individual technical and operations technical training

STEP 6. IDENTIFY CUSTOMER NEEDS (Based on COMTRAPAC customer survey):

1. Improved, timely delivery of updated curriculum
2. Curriculum that minimizes training and maximized knowledge
3. Standards to accurately evaluate training quality to customers
4. Evaluate existing feedback mechanisms
5. Assess/improve quota utilization
6. Determine and prioritize courses for video teletraining (VTT)
7. More effective teaching methods
8. Team training scheduled to customers' needs
9. More team training courses available

STEP 7. IDENTIFY CRITICAL PRODUCTS AND SERVICES:

A matrix diagram was used as a tool to determine the critical products and services. In order of priority:

1. Mobile Team Training (MTT's)
2. Team Training
3. Curriculum development
4. Individual technical and operations technical training

APPENDIX C (Cont.)

STEP 8, IDENTIFY CRITICAL PROCESSES:

The top three critical products and services were macro flow charted by ESC members and critical processes were determined using a combination ID matrix.

1. Mobile Team Training
    a. Area Coordinator (AC) consolidates requests
    b. FLETRACEN agrees to dates
    c. MTT scheduled

2. Team Training
    a. Team Training availability
    b. Quota control authorizes training
    c. Conduct Team Training

3. Curriculum development
    a. Develop Project Plan
    b. Develop curriculum outline
    c. Develop curriculum

DAY THREE/21 OCT 1993

Continued from Day Two, started on Step 9 of Strategic Planning Flowchart

STEP 9, IDENTIFY STRATEGIC PROCESSES:

1. Utilized Strategic Process Matrix to identify strategic processes. Matrix was comprised of critical processes vs. critical success factors. Used consensus to arrive at values of relationships.

TOP CRITICAL PROCESSES FROM THE MATRIX IN ORDER FROM HIGH TO LOW:
a. Conduct Team Training
b. Prepare Project Plan
c. Develop curriculum
d. Develop curriculum outline
e. Determine Team Training availability
f. FLETRACEN agrees to MTT dates
g. Training authorization given by quota control
h. MTT scheduled
i. Request for MTT's consolidated by AC

2. The command's Strategic Processes based on external customer needs were narrowed and additional processes were brainstormed to include internal considerations. The command's Strategic Processes were determined to be:

   a. Conduct Team Training
   b. Curriculum development
   c. Personnel and administrative management

3. The existence of the current Quality Management Boards (QMB's) was discussed to see if they should be defined as QMB's in support of the command's strategic goals or as Quality in the Daily Workplace (QIDW) groups. The consensus was:

a. ADP	QIDW
b. Internal communications	QMB
c. Building and grounds	QIDW
d. Auxiliary Engineering	QIDW
e. Precommissioning Group	QIDW
f. Weapons Department	QIDW
g. Damage Control	QIDW

STEP 10. DEVELOP STRATEGIC GOALS AND OBJECTIVES:

1. GOAL: Improve Team Training

OBJECTIVES:

a. Obtain feedback from external customers to determine efficiency and effectiveness of current team training

b. Perform cross-functional assessment of Team Training (e.g., Damage Control, Weapons, and Operations Team Training)

c. Recommend improvements to Team Training

PERFORMANCE INDICATORS:

a. Report the top ten areas which require command attention

b. Flow chart the standard Team Training process and identify deviations

c. Submit internal and external improvements with recommendations to the ESC

APPENDIX C (Cont.)

2. GOAL: Streamline the curriculum development/ modification processes

OBJECTIVES:

a. Assemble data and/or develop tracking system to determine the time required for curriculum implementation/modification

b. Assess approval procedures and identify bottlenecks to the curriculum processes

c. Make recommendations for curriculum process improvements

PERFORMANCE INDICATORS:

a. Report the results of the data analysis to the ESC

b. Develop a flowchart of the curriculum development/modification processes

c. Submit recommendations for improvement to internal and external portion of the curriculum development/modification processes to the ESC

3. GOAL: Improve personnel and administrative management starting with:

- Streamline personnel evaluation procedures
- Improve internal communications procedures

OBJECTIVES:

a. Develop standard personnel evaluation criteria, format, grading criteria, bullets, etc.

b. Improve existing evaluation production and review process to meet due dates

c. Determine training requirements for writing personnel evaluations

PERFORMANCE INDICATORS:

a. Produce standards evaluation criteria for ESC approval

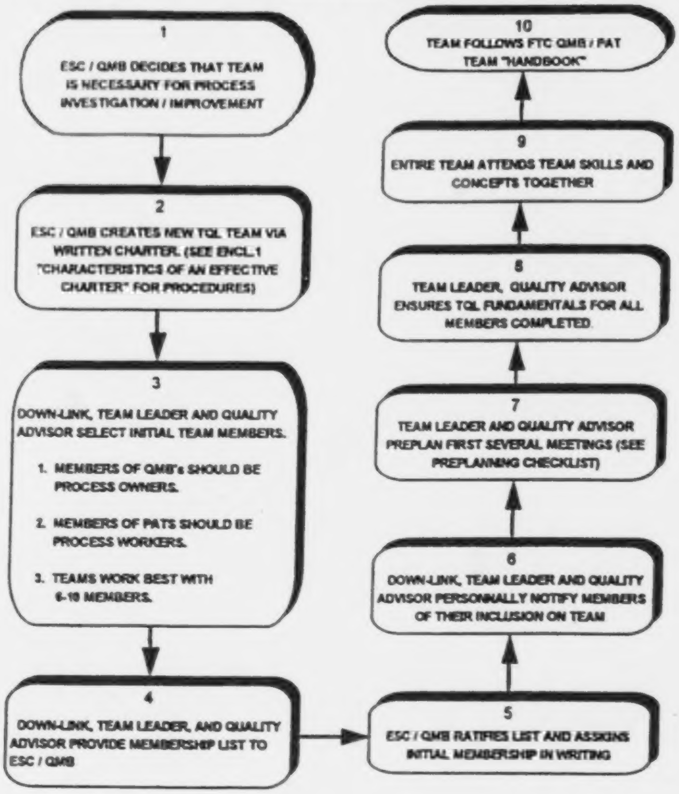
b. Increase percentage of evaluations signed by due date

c. Track/count at each level, the number of evaluations returned for correction

d. Provide recommendations for training requirements to include, but not be limited to, evaluation writing

APPENDIX D

FLEET TRAINING CENTER
TQL TEAM FORMATION FLOW / DECISION CHART


1
ESC / QMB DECIDES THAT TEAM IS NECESSARY FOR PROCESS INVESTIGATION / IMPROVEMENT
2
ESC / QMB CREATES NEW TQL TEAM VIA WRITTEN CHARTER. (SEE ENCL.1 "CHARACTERISTICS OF AN EFFECTIVE CHARTER" FOR PROCEDURES)
3
DOWN-LINK, TEAM LEADER AND QUALITY ADVISOR SELECT INITIAL TEAM MEMBERS.
1. MEMBERS OF QMB's SHOULD BE PROCESS OWNERS.
2. MEMBERS OF PATS SHOULD BE PROCESS WORKERS.
3. TEAMS WORK BEST WITH 6-10 MEMBERS.
4
DOWN-LINK, TEAM LEADER, AND QUALITY ADVISOR PROVIDE MEMBERSHIP LIST TO ESC / QMB
5
ESC / QMB RATIFIES LIST AND ASSIGNS INITIAL MEMBERSHIP IN WRITING
6
DOWN-LINK, TEAM LEADER AND QUALITY ADVISOR PERSONALLY NOTIFY MEMBERS OF THEIR INCLUSION ON TEAM
7
TEAM LEADER AND QUALITY ADVISOR PREPLAN FIRST SEVERAL MEETINGS (SEE PREPLANNING CHECKLIST)
8
TEAM LEADER, QUALITY ADVISOR ENSURES TQL FUNDAMENTALS FOR ALL MEMBERS COMPLETED
9
ENTIRE TEAM ATTENDS TEAM SKILLS AND CONCEPTS TOGETHER
10
TEAM FOLLOWS FTC QMB / PAT TEAM "HANDBOOK"

TEAM LEADER/QUALITY ADVISOR PREPLANNING CHECKLIST

1. REVIEW REFERENCE DOCUMENTS WITH TQL COORDINATOR
   - A. REVIEW FTC PAT/QMB HANDBOOK
   - B. REVIEW QA HANDBOOK
   - C. REVIEW "JOINER TEAM HANDBOOK"
   - D. REVIEW "LESSONS LEARNED"
2. IDENTIFY AGENDA FORMAT
3. PREPARE AGENDA OUTLINE FOR FIRST SEVERAL MEETINGS AREAS TO COVER INCLUDE
   - A. TEAM BUILDING
   - B. TQL EDUCATION
   - C. UNDERSTANDING PROJECT GOALS
4. DETERMINE MEETING PLACE
5. DETERMINE MEETING TIME AND FREQUENCY OF MEETINGS
6. DISCUSS THE ROLES OF THE TEAM LEADER AND QUALITY ADVISOR
7. DETERMINE ADMIN NEEDS AND RESOURSES REQUIRED
8. SET THE BASIC GROUND RULES FOR THE FIRST FEW MEETING (SEE THE FTC QMB/PAT HANDBOOK AND THE "JOINER TEAM HANDBOOK"

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APPENDIX E

Internal Communications Quality Management Board

(IC QMB) Charter

In support of FLETRACEN's long-range (strategic) goals of improving the personnel and administrative management processes, the IC QMB is hereby chartered. The specific guidelines that the team is to use and adhere to are as follows:

I. **Purpose:** To ensure command personnel are well informed and communicate effectively in order to maintain high morale and successfully attain command goals.

Background: The results of a recent command survey revealed that the number one concern of FLETRACEN personnel was the flow of communications at all levels within the command. Some of the IC processes that may be effected are included as enclosure (1).

II. **Mission:** Evaluate and improve the command routine internal communications processes. Make appropriate changes to those processes to reduce communication breakdowns and increase the effective dissemination of information to all levels of the command.

III. Tasking

1. Evaluate areas of communications within the command to include but not be limited to: Captain's Calls, Plan-of-the-Day (POD) notes, Quarters.

2. Charter one or more Process Action Teams (PAT's) to collect data and assist in analysis requirements.

3. Facilitate progress and assist the PAT's to collect data and assist the PAT's as required.

4. Forward recommendations and suggestions to the ESC for improvement.

5. Uplink to the ESC once a month or as requested by the ESC.

APPENDIX E (Cont.)

IV. **Boundaries:** The IC QMB will concentrate on routine internal communications with emphasis placed on the more frequent (daily) processes.

V. **Limits of authority:** The IC QMB has the authority to call in additional resources, including additional personnel, equipment, and/or information. The IC QMB is authorized to make changes to the selected process deemed necessary and appropriate, unless specifically prohibited by written directives. When desired changes are contrary to written directives, those prohibited changes for process improvement will be forwarded to the ESC for resolution.

VI. **Team membership:** The following personnel are assigned to the IC QMB until further notice. Any and all changes to team membership after this time will be the responsibility of the QMB.

[NOTE: Names of Team Leader, Downlink, Quality Advisor and team members have been deleted. Team numbered eleven plus the Quality Advisor.]

APPENDIX E (Cont.)

Internal Communications Processes

The ESC brainstormed the following list of possible IC processes to review and improve. The list is not complete, and is intended only as a starting point for the improvement of communications relating to personnel and communications management.

1. Captain's Call
2. Plan-of-the-Day (POD) notes
3. Quarters
4. Telephone communications
5. Chain of Command (COC)
6. Memos
7. Guard mail
8. "CC" Mail (internal EMAIL)
9. Local Area Network (LAN)
10. Commanding Officer's (CO's) Total Quality Leadership (TQL) suggestion box
11. FLETRACEN instructions
12. Tracking communications
13. Sub-organizations (i.e., Petty Officers' Association, Chief Petty Officers' Association, etc.)
14. General Military Training (GMT)
15. Command indoctrination program
16. Meeting minutes (all types)

Encl (1)

APPENDIX F

Evaluation Quality Management Board (Eval QMB) Charter

PURPOSE STATEMENT: FLETRACEN has established a strategic goal of improving personnel and administrative management. A key element in support of that goal is the personnel evaluation writing process. Evaluations have tremendous impact on the careers and morale of our personnel and deserve a great amount of attention.

MISSION STATEMENT: Streamline and standardize the personnel evaluation process within FLETRACEN.

Tasking:

1. Develop standard personnel evaluation criteria (format, grading criteria, bullets, etc.) and submit to the ESC for review and approval.

2. Improve the existing evaluation production and review process to meet evaluation due dates. To gage improvement, track/count, at each processing level, the number of evaluations returned for corrections and the total percentage of evaluations filed/mailed within 15 days of the end of the reporting period.

3. Determine the training requirements for writing personnel evaluations and provide recommendations to the ESC for approval.

BOUNDARIES: Examine all personnel evaluation processes within FLETRACEN. The limits are:

START: When the eval is drafted by the immediate supervisor.

STOP: When the eval is filed in the member's service record (E-4 and below) or mailed to the Bureau of Naval Personnel (E-5 and above).

LIMITS OF AUTHORITY: This QMB has the authority to call in additional resources including co-workers, equipment, and/or information. The QMB will make necessary changes to the process. If changes are

APPENDIX F (Cont.)

contrary to written directive, suggestion for improving the process will be forwarded to the ESC.

TEAM MEMBERSHIP:

[NOTE: Names of team members have been deleted.]

Other members as proposed by the Team Leader, Downlink and Quality Advisor and approved by the ESC.

APPENDIX G

Curriculum Development/Modification Process Quality Management Board (Curr QMB) Charter

PURPOSE STATEMENT: Activities of this QMB shall be directed toward improving the timely delivery of updated curriculum and its instruction in minimum training time with maximum knowledge imparted.

MISSION STATEMENT: Review the methods/procedures by which curricula are developed/modified with Naval Education and Training Command (NAVEDTRACOM) and FLETRACEN. Analyze these methods and procedures to determine where efficiencies can be made to make these efforts more timely and responsive to Fleet needs.

TASKING:

1. Review applicable curriculum development instructions and procedures.
2. Read/study Zero Based Training and Education Review (ZBT&ER).
3. Flowchart curriculum development/modification procedures and brief charts to the ESC.
4. Analyze flowcharts and identify showstoppers/ roadblocks and brief the ESC.
5. Collect data as required and develop a tracking system for curriculum development/modification procedures.
6. Standardize curriculum development/modification procedures within FLETRACEN.

LIMITS OF AUTHORITY: This QMB has the authority to call in additional resources. At the command level, the QMB will make necessary changes to the process(es). If changes are contrary to written directives, suggestions for improving the process(es) will be forwarded to the ESC. If identified, the QMB will provide the ESC change recommendations to streamline

APPENDIX G (Cont.)

curriculum development procedures provided by higher authority.

TEAM MEMBERSHIP: A Quality Advisor and team members will be nominated by the Team Leader and Downlink.

[NOTE: Names have been deleted.]

APPENDIX H

Team Training Process Improvement Quality Management

Board Charter

PURPOSE STATEMENT: FLETRACEN, San Diego has established a strategic goal of improving team training offered to its external customers.

MISSION STATEMENT: Objectively analyze, evaluate, and determine effectiveness, efficiency and availability of team training courses currently offered at FLETRACEN.

TASKING:

1. Survey external customers to determine efficiency and effectiveness of team training currently offered at FLETRACEN San Diego. Report to the ESC the top ten areas which require command attention.

2. Conduct cross functional assessment of team training courses currently taught at FLETRACEN (e.g. Damage Control, Weapons Operations Team Training). Flow chart current team training processes and identify deviations. Make recommendations for team training standardization.

3. Review team training requirements currently mandated by higher echelons.

4. Record, flowchart processes as appropriate, and analyze data collected from external customers.

5. Make recommendations to the ESC for external and internal improvements.

LIMITS OF AUTHORITY: This QMB has the authority to call in additional resources including additional personnel, equipment and information. Up to two Process Action Teams (PAT's) may be chartered by the QMB as required to fulfill this mission. At the command level, the AMB will identify necessary changes to the process(es). If changes are contrary to written directives, suggestions for improving the process will be forwarded to the ESC. Data collection from external

APPENDIX H (Cont.)

customers will be done with the permission of that activity's ISIC (Immediate Senior in Chain of Command) and the Commanding Officer.

TEAM MEMBERSHIP: A Quality Advisor and team members will be nominated by the Team Leader and Downlink to achieve a cross functional QMB.

[NOTE: Names have been deleted.]

APPENDIX I

Areas of Human Resources Development Interest

Fleet Training Center, San Diego

1. Total Quality Leadership is a process improvement management system. The Fleet Training Center Quality Management Boards (QMB's) are chartered to address processes within strategic goals. Revisiting the current strategic goals, the following processes could be investigated:

a. GOAL 1: Improve Team Training

(1) Development of permanent, timely, meaningful electronic feedback mechanisms for customer use

b. GOAL 2: Streamline the Curriculum Development/ Modification Process

(1) Utilization of the Authoring Instructional Materials (AIM) computer system (installation of upgraded system must be managed separately as a project)

(2) Creation and maintenance of an interface with systems development and testing organizations to put the schoolhouse back in the installation loop

APPENDIX I (Cont.)

c. GOAL 3: Improve Personnel and Administrative Management

(1) Cross-utilization of instructor personnel

(2) Utilization of the Versatile Training System (VTS) (a data base for schoolhouse management for which an installation project is also needed; one module has been installed)

2. There are management issues which must be addressed on the tactical or operational level rather than the strategic level. These are project areas rather than process areas. Human resource issues which should be focused on are:

a. Installation of the VTS and AIM

b. Expansion of the LAN to allow better internal communications and access to the Internet (these issues are under investigation by an Automated Information Systems (AIS) Quality in the Daily Workplace (QIDW) group)

c. Maximization of Video Teletraining (VTT) facility utilization

d. Exploration of the potential for use of contract instructors or conversion of courses to independent

APPENDIX I (Cont.)

study with the use of interactive CD-ROM, interactive videodisc, etc.

e. Maximization of staff development utilizing the LAN, personal computers, VTT, and existing resources

f. Maximization of career counseling utilizing better computer and phone interfaces with Washington

g. Preparation for the continued transition from paper technical manuals and documents to CD-ROM to facilitate student and staff learning with no interruptions

DEVELOPMENT OF A VISION FOR COMMUNICATIONS IN A TOTAL QUALITY TRAINING FACILITY: FLEET TRAINING CENTER, SAN DIEGO

Human Resources Development

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A seminar paper presented to Nova Southeastern
University in partial fulfillment of the
requirements for the degree of
Doctor of Education

Nova Southeastern University
May, 1994

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INTRODUCTION

Fleet Training Center (FLETRACEN), San Diego must become a model total quality training facility to survive anticipated budget and support services cuts through the end of this decade while remaining a primary provider of quality general skill training to the U. S. Pacific Fleet. FLETRACEN is an Echelon IV Navy command reporting to Commander, Training Command, Pacific (COMTRAPAC), then to Chief of Naval Education and Training (CNET) located in Pensacola, FL. With a need to communicate with other training commands and support activities on both coasts, and an equally pressing need to address the high cost and decreasing availability of paper communications products, FLETRACEN must additionally establish itself as a participant and benefactor of the communication age. The command must do this by planning for and expanding, purchasing or installing critical communications software and hardware and providing adequate training and documentation to facilitate use of same.

BELIEFS AND VALUES

The FLETRACEN vision is a dynamic training command, committed to personal excellence, which utilizes the latest technology for safe and efficient training, while remaining sensitive to our environment (FLETRACEN Mission Statement, 1993). Additionally, FLETRACEN command values include "open and effective communication", "innovation", and a commitment to "modernize teaching and support technologies". Command members are committed to "challenging and stimulating staff and students". These beliefs are commonly held by senior management in the organization, so electronic connectivity in a Total Quality (TQ) environment is consistent with stated existing policy and, more importantly, with the real beliefs of the management team. Senge (1990) assures us that "shared visions emerge from personal visions", so FLETRACEN is blessed with leadership capable of forming and sharing meaningful vision for the organization and working together to translate this into shared vision to which each person can commit time, effort, and very precious resources.

In TQManager, Schmidt urges organizations to uphold five Total Quality Manager (TQManager) competencies. Among these is "creating a learning and continuously improving organization"; the creation of what the Japanese call "Kaizen" (Schmidt, 1993). "In a learning organization, leaders are designers, stewards, and teachers. They are responsible for *building organizations* where people continually expand their capabilities to understand complexity, clarify vision, and improve shared mental models--that is, they are responsible for learning." (Senge, 1990) "The best support for continuous improvement is an organization of people who give a high priority to learning" (Schmidt, 1993). FLETRACEN is blessed with a cadre of professional educators deeply committed to the organization and to their own growth. Planning for providing access to information will assist command members in pursuing their personal growth. This is consistent with Schmidt's warnings NOT to limit people's access to information and NOT to draw a line between work and learning (Schmidt, 1993). FLETRACEN needs to be in the business of empowering people.

Finally, the conclusions of the Chief of Naval Education and Training's Zero-Based Training & Education Review (ZBT&ER) support the FLETRACEN vision:

> The Navy must change how, when, and where sailors will be trained in the future if planned resource reductions are to be implemented without degrading the quality of

training; new training concepts like video teletraining, integrated electronic technical manuals, just-in-time training, and core-and-strand training philosophies must be embraced and implemented to produce the same or higher quality product--a well trained sailor--at a lower cost.

FRAMEWORK FOR VISION AMPLIFICATION

FLETRACEN has the vision, the leadership, the commitment, and the support to effect change. Significant steps toward both the creation of a TQ training facility and the FLETRACEN of the communications age have already been outlined and are completed or are in progress. The implementation of Total Quality Leadership (TQL) has been mandated for the Navy. FLETRACEN already has a mission, vision, guiding principles, strategic goals, and Quality Management Boards (QMBs) working toward goal realization.

In an independent initiative, the Director of Training (DOT), the Command Instructional Systems Specialist (CISS), the Information Systems Officer (ISO), and the Senior Computer Specialist began work in 1993 to plan communications for the FLETRACEN of the future. In both endeavors, several assumptions were made:

1. FLETRACEN will survive the 1995 Base Realignment and Closure (BRAC) process and will remain the chief contender for the hub of U. S. Navy general skills training on the west coast.
2. As such, FLETRACEN, San Diego (SD) will mirror its east coast counterpart, Fleet Training Center, Norfolk, with whom it will need to regularly communicate.
3. The impact of the Navy's rightsizing effort will be significant, necessitating initiatives to do more diverse training with fewer personnel and fewer dollars.
4. Civilian Department of Defense (DOD) personnel should be key players in planning change and implementing total quality to ensure continuity of vision and purpose.

The San Diego area training infrastructure was impacted by the 1993 BRAC process. Also the rightsizing process has, to date, demanded that FLETRACEN identify billets to effect an approximately twelve percent reduction in manning through Fiscal Year 1997 (FY97). The same number of courses of instruction (COI) will likely be needed by operational surface and air forces, but it is anticipated that fewer convening of each course will be necessary to meet lower student throughput as the number of warfighting platforms continues to decrease. It is expected that reductions in manpower, budget and available resources will continue through the end of this decade as defense spending, as a percentage of the gross domestic product, will decline from 4.1 percent today to three percent in fiscal 1998 (Paige, 1993).

Fleet Training Center Detachment Treasure Island (FTCDET TI) is scheduled for closure as early as the end of FY96, pending actual funding of military construction to house the initial damage control training school in Great Lakes, MI. The Officer in Charge recently reported that her current manning "remains sufficient to meet mission accomplishment" (FTC-SND TI-00, personal communication, May 3, 1994) with one minor exception.

When TI closes, FLETRACEN facilities will be sited onboard Naval Station 32nd Street in their entirety. The scheduled closure makes it unneccessary to include TI in FLETRACEN data bases and communications plans, and VTT broadcasts will be discontinued.

Information Systems Officer (ISO) Milestones

The ISO recently reported the following milestones in connectivity and database formation (FTC-SND 018, personal communication, May 2, 1994):

1. An Information Systems Quality In Daily Work (IS QIDW) group is preparing a software standardization proposal for the command.
2. The Authoring Instructional Materials (AIM) Program Office (ZBT&ER, 1993) has completed final plans for the hardware installation of their

curriculum authoring system at FLETRACEN and is in the contracting process. Installation is scheduled for August, 1994.

3. Under the AIM initiative, FLETRACEN will acquire fiber optic connectivity between six of its eight buildings on the east side of the Naval Station where the main FLETRACEN compound is.

4. FLETRACEN is nearing completion of data verification for the personnel portion of the Versatile Training System (VTS) II, the CNET training command database of choice. This is the second module of the database. The third will be facilities information which will provide a foundation for future flexible course scheduling.

5. It may be possible to begin building the VTS II database during required collection of facilities information for the BRAC-95 data collection effort.

TQL Milestones

COMTRAPAC recently reported (Commander, Training Command Pacific, personal communication, April 29, 1994) completion of several key accomplishments in the COMTRAPAC strategic plan, specifically, the establishment of face-to-face training feedback and the identification and prioritization of courses suitable for video teletraining (VTT) broadcast. Nothing in their report contraindicated the continuance of the FLETRACEN strategic plan implementation, however, achievement of strategic goals is still anticipated to be a long-term commitment.

FLETRACEN is ahead of most U. S. Navy activities in TQL implementation when compared to the recommended timeframe for implementation. At this point, FLETRACEN should start concentrating on the use of TQ for process improvement in the workplace: the tactical side of TQ. Education is essential to this effort, and the education effort is well in hand. All senior leaders have had three to nine days (sometimes more) of TQ training. Thirty-five percent of all personnel in the organization have had at least three days of TQ training. Eleven percent have had six days or more. The three day "Fundamentals of TQL" workshop has now been incorporated into indoctrination training to ensure completion by all incoming personnel. This will result in the training of most personnel onboard within approximately eighteen months (Assistant TQ Advisor, personal communication, May 5, 1994). In addition to "Fundamentals", FLETRACEN offers a three day "Quality in the Daily Workplace (QIDW)" workshop and a three day "Team Training" workshop. This command of approximately 580 personnel has twelve trained Quality Advisors (QAs). FLETRACEN has met or exceeded fleet goals for implementation of TQL. The Navy-wide established date for completion of training for leadership is still two years away.

VISION ELEMENTS

In the FLETRACEN of the future:

1. All Division Officers, Course Coordinators and Director of Training (DOT) staff members will be able to communicate electronically with one another, with COMTRAPAC, and with CNET, encompassing access to the FLETRACEN LAN for message traffic and EMAIL and to programmable landlines (estimated completion: August 1994). The command phone and EMAIL directories will be online. Command instructions, the Catalog of Navy Training Courses (CANTRAC), and other frequently accessed documents will also be online. To this end, FLETRACEN is currently preparing to install six CD-ROM readers on the LAN. The ISO is preparing training for LAN use as well as continuing software program training.

3. The Commanding Officer, Executive Officer, DOT, all Department Heads, and all ISS personnel will be able to communicate as in #1 and will have Internet access per the vision of ADM Jerry O. Tuttle, USN (Retired).

4. All students will be provided with CD-ROM readers or imbedded readers (technical information stored electronically on devices attached to equipment), as appropriate. Students requiring computers will have access to computers. All students will be able to communicate electronically with their parent command and with the chain of command in the training center to facilitate problem solving and timely feedback.

5. All classrooms will be upgraded to include sufficient outlets for electronic information devices.

6. Students will be trained at the geographic location of their parent command, wherever practicable, through the use of video teletraining, online training, interactive training for personal use, or correspondence.

7. Paperwork will be minimized or eliminated if it provides no "value added" (CNO, personal communication, May 1994).

8. Staff will utilize video teleconferencing or personal computer conferencing, when available to communicate with their counterparts at other commands teaching the same or similar courses of instruction.

9. Staff will be able to communicate with the entire chain of command simultaneously to reduce processing time. Communication of this sort will be encouraged. Personnel will include process improvement data online in the form of reports or databases to share TQ triumphs and failures and will network with the Federal Quality Institute (Jablonski, 1992) and other TQ resources facilities and TQ users.

CONCLUSION

The vision must be flexible in the face of "the great uncertainty in an organization where programs are subjected to political influence, annual budget processes and turnover in political leadership (Schmidt, 1992). The ultimate organizational culture will never be perfectly attained, but will always be evolving. FLETRACEN has an excellent start on expanded communications in a TQ environment.

REFERENCES

Carnevale, A. P., Gainer, L. J. & Meltzer, A. S. (1990). Workplace basics: The essential skills employers want. San Francisco: Jossey-Bass.

Dutcher, R. L., JO1 (1994, March/April). TQL: Making a difference. Surface Warfare, pp. 6-7.

Guaspari, J. (1985). I know it when I see it. New York: American Management Association (AMACOM).

Hamblen, D., Ed. (1994, April). CHIPS, XII(2).

Jablonski, J. R. (1992). Implementing TQM: Competing in the nineties through Total Quality Management (3rd ed.). Albuquerque, New Mexico: Technical Management Consortium, Inc.

Paige, E., Jr. Re-engineering DoD's C3 operations. Defense '93, Issue 6, pp. 15-22.

Schmidt, W. H. & Finnigan, J. P. (1992). The race without a finish line. San Francisco: Jossey-Bass Publishers.

Schmidt, W. H. & Finnigan, J. P. (1993). TQM manager: A practical guide for managing in a total quality organization. San Francisco: Jossey-Bass Publishers.

Senge, P. M. (1990). The fifth discipline: The art & practice of The learning organization. New York: Doubleday.

U. S. Navy. (1993, November). Zero-based training and education review (ZBT&ER) final report. Pensacola, FL: NAVEDTRACOM.

A MULTI-YEAR PLAN FOR EFFECTIVE COMMUNICATIONS IN A TOTAL QUALITY TRAINING FACILITY: FLEET TRAINING CENTER, SAN DIEGO

Human Resources Development

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A seminar paper presented to Nova Southeastern
University in partial fulfillment of the
requirements for the degree of
Doctor of Education

Nova Southeastern University
June, 1994

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INTRODUCTION

Fleet Training Center (FLETRACEN), San Diego must continue to evolve as a model total quality training facility to provide training and support requirements to the fleet in a safe learning and working environment. It must do this because it is becoming increasingly apparent that one likely result of the rightsizing of the military to meet new missions driven by "From the Sea" will be the establishment of a single training megacenter on each coast to provide service and general skills training. For the west, FLETRACEN, San Diego is in the best position for selection as the hub.

RATIONALE

FLETRACEN is already the west coast hub for the growing Chief of Naval Education and Training (CNET) Electronic Schoolhouse Network (CESN) (Mooney, 1994). FLETRACEN is a modern facility physically located on Naval Station, 32nd Street in close proximity to the customers it serves. As San Diego Bay offers proven protected berthing for west coast ships, Naval Station 32nd Street is an unlikely candidate for closure in the 1995 Base Realignment and Closure (BRAC) process. In fact, FLETRACEN is the recipient site for courses migrating from Naval Training Center, a nearby facility selected for base closure in 1993.

The new Secretary of Defense, William J. Perry, has promised to "ensure readiness through oversight of the services as they equip and train our forces to be the 'best-equipped, best-trained, and best-prepared fighting force on the face of the earth'. . .[and] to manage resources efficiently during this difficult drawdown through innovative management techniques." (Leight, 1994). FLETRACEN expects top-down support for the Total Quality Leadership (TQL) management environment under which modern communications and data base training support can be installed.

GOALS AND OBJECTIVES

A new Commanding Officer took the helm of FLETRACEN on May 26, 1994. On June 2, he announced his intention to revisit the FLETRACEN mission, vision and guiding principles during a retreat to be scheduled for June 30, 1994. Specifically, he believes the guiding principles should reflect the fact that safety is paramount in training (personal communication, June 2, 1994). The Commanding Officer is committed to using the TQL management philosophy and TQL tools (Scherkenbach, 1988), including Quality in the Daily Workplace (QIDW, FLETRACEN, 1993). Leading a committed team, he is equipped to accomplish the following goals and objectives in a total quality environment:

GOAL 1. Maximize command understanding and use of TQL.

OBJECTIVE 1. Promulgate a clear conceptual model of how TQL works at FLETRACEN and complete initial training of command personnel to ensure understanding of the mechanics of TQL.

OBJECTIVE 2. Formulate and promulgate acceptable communications and database access protocol for use with electronic communications. This protocol should honor the Chain of Command but eliminate time-wasting routing of ideas to one level at a time.

GOAL 2. Maximize paperless communications, including transmittal of evaluations and curriculum.

OBJECTIVE 1. Complete installation of LAN with fiber optic backbone.

OBJECTIVE 2. Install Authoring Instructional Materials (AIM) curriculum authoring system and train users.

OBJECTIVE 3. Upgrade LAN operating system software and hardware for a WINDOWS environment.

GOAL 3. Maximize student and staff access to appropriate information.

OBJECTIVE 1. Complete installation of Versatile Training System II (VTS) database and related subsystems and train users.

OBJECTIVE 2. Provide EMAIL for all users and INTERNET access for top management.

OBJECTIVE 3. Provide access online to FLETRACEN instructions, the Plan of the Day, the Commanding Officer's Schedule and other common documents.

OBJECTIVE 4. Provide students with CD-ROM readers and sufficient copies of technical manuals on CD-ROM. Update curriculum to accommodate new technology.

GOAL 4. Maximize utilization of video teletraining (VTT) for cost avoidance.

OBJECTIVE 1. Connect system to Hawaii, disestablish connection to Treasure Island, and solve connectivity problems with Japan.

OBJECTIVE 2. Utilize a working group to continue to identify courses suitable for VTT and to implement VTT training for those courses.

METHODOLOGY

An action plan is outlined in Appendix A. Highlights of this plan are reported below:

GOAL 1: A proposed conceptual model for TQL at FLETRACEN is presented in Appendix B. This model would replace the current "House of Quality" model which has proven ambiguous. Once adapted by the Executive Steering Committee (ESC), this model would be taught in the "Quality in the Daily Workplace" workshop (FLETRACEN, 1993). Department Heads are currently working together to speed up initial training of staff onboard. When all command members have participated in the two three-day workshops "Fundamentals of Total Quality" and "Quality in the Daily Workplace", additional workshops or training can be written and presented based on continuing assessment of needs.

GOAL 2: Eight buildings need to be connected with fiber optics in a star network as presented in Appendix C (Madron, 1990). The Information Systems Officer (ISO) reports that six of these buildings will be connected in August 1994 utilizing fiber optics being installed for the AIM system (personal communication, May 27, 1994) at no cost to FLETRACEN. The LAN concept is presented in Appendix D. Additional upgrades are anticipated to be unfunded requirements which may be funded during mid-year review over several years. Hardware in individual buildings is to be upgraded using departmental OPTAR (operational funds).

GOAL 3: VTS installation of two modules is complete and barcoding of badges is now possible. Additional modules will enable scheduling and tracking of courses. There is no satisfactory documentation for this system, but FLETRACEN is committed to implementing VTS (U. S. Navy, 1993) and training is available. VTS is provided at no charge to FLETRACEN.

CD-ROM is the medium of choice for an increasing number of government publications, including technical manuals. FLETRACEN has urged CNET to purchase portable CD-ROM readers for all Navy students for over two years to no avail. A CD-ROM server has recently been ordered for the LAN (Desmarais, 1991) and upgraded operating system software will be provided by Naval Education & Training Program Management Support Activity (NETPMSA). This will allow two file servers to be used online and will enable users to access CD-ROM data such as the Catalog of Navy Training Activities (CANTRAC). FLETRACEN instructions will be online in Word Perfect format shortly after the new operating system is installed (ISO personal communication, May 27, 1994).

Although physically possible today, Internet access for key command personnel may be some distance away because of security and privacy act concerns. It is desirable that key personnel have access to government databases (McClure, Bishop, Doty & Rosenbaum, 1991, Busey, 1994 and Campen, 1994). It is further desirable that other teaching sites and fleet units have electronic access to FLETRACEN curriculum and that curriculum be transmitted to other teaching sites electronically.

GOAL 4: VTT is a proven purveyor of distance education (Verduin & Clark, 1991 and Mooney, 1994).

Cost avoidance figures for FLETRACEN since June 1993 exceed $160,000 in student travel.

COSTS

FLETRACEN will make maximum use of programs and funds available from other Navy organizations and will rely heavily on the availability of mid-year and end-of-year funds and the judicious use of OPTAR by Department Heads. Amplifying remarks are provided in Appendix E.

CONCLUSION

The total quality environment at FLETRACEN will change constantly. This in itself is an indication of its successful implementation. Technology, too, will change constantly. ADM Tuttle, the Navy's visionary for information technology, predicts that, "Information will travel over photonic superhighways at teraflop rates (billions of operations per second) before the end of the century." (Busey, 1994) Keys to participation in the benefits and challenges are connectivity and commitment. The FLETRACEN management team is already well on its way to meeting emerging challenges with better teamwork and clearer vision, ensuring maximum involvement of staff members.

REFERENCES

Busey, ADM J. B. (1994, March). Navy's space, electronic warfare vision mirrors new defense budget framework. Signal, p. 15

Campen, COL A. D. (1994, March). Competition, consumers are shaping information highway. Signal, pp. 17-18.

Desmarais, N., Ed. (1991). CD-ROM local area networks: A user's guide. Westport: Meckler.

Fleet Training Center, San Diego (1993). Quality in daily work handbook. Unpublished manuscript used within FLETRACEN.

Leigh, J. H., Ed. (1994, May). New defense secretary sets priorities. Retired Officer Magazine, p. 22.

Madron, T. W. (1990). Local area networks: The next generation. New York: John Wiley & Sons.

McClure, C. R., Bishop, A. P., Doty, P. & Rosenbaum, H. (1991). The national research and education network (NREN): Research and policy perspectives. Norwood, NJ: Aablex Publishing Corporation.

Mooney, JO2 R. (1994, April). Video teletraining. All Hands, pp. 33-35.

Scherkenbach, W. W. (1988). The Deming route to quality and productivity: Road maps and roadblocks. Washington, DC: CEEPress.

Schmidt, W. H. & Finnigan, J. P. (1993). TQM manager: A practical guide for managing in a total quality organization. San Francisco: Jossey-Bass Publishers.

U. S. Navy. (1993, November). Zero-based training and education review (ZBT&ER) final report. NAVEDTRACOM.

REFERENCES (Cont.)

U. S. Robotics (1989). Communications concepts. . .an introduction to data communications. Skokie, IL: U. S. Robotics.

Verduin, J. R., Jr. & Clark, T. A. (1991). Distance education: The foundations of effective practice. San Francisco: Jossey-Bass Publishers.

APPENDIXES

Appendix A

Multi-Year Plan for Effective Communications in a Total Quality Training Facility

GOALS:

1. Maximize command understanding of TQL.
2. Maximize paperless communications, including transmittal of evaluations and curriculum.
3. Maximize student and staff access to appropriate information.
4. Maximize utilization of VTT for cost avoidance.

Year 1	Year 2	Year 3
Objectives: 1. Promulgate new TQL conceptual model. 2. Complete initial training of personnel. 3. Formulate and promulgate electronic protocol. 4. Install fiber optic LAN. 5. Install AIM and commence training. 6. Select next VTS module(s) and install. 7. Connect VTT to Hawaii.	Objectives: 1. Provide TQL training as needed. 2. Refine electronic protocol. 3. Upgrade LAN hardware and software. 4. Complete VTS installation and training. 5. Provide EMAIL. 6. Complete online document access. 7. Pursue CD-ROMs.	Objectives: 1. Provide TQL training as needed. 2. Upgrade LAN to WINDOWS. 3. Provide Internet. 4. Complete curriculum revisions for CD-ROM use. 5. Acquire last CD-ROM readers. 6. Connect VTT to Japan/dis-establish TI. 7. Add VTT classrooms and courses.

Appendix A (Cont.)

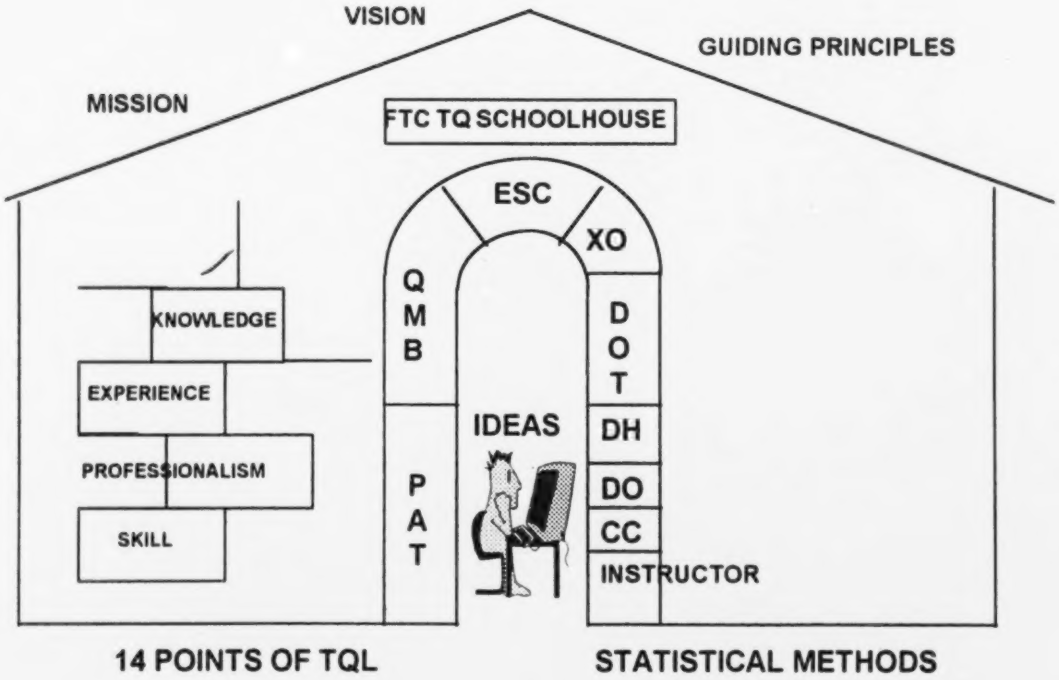
Year 1	Year 2	Year 3
Objectives (Cont.): 8. Plan for online access to important documents. 9. Press CNET for CD-ROM solutions. 10. Connect VTT to Hawaii. 11. Form VTT working group.		
Methodology: 1. Utilize ESC and staff meetings for tasking. 2. Use AIM fiber optics for all of LAN. 3. AIM to be installed by outside organization. 4. VTT Coordinator to work with HI on spoke. 5. Form VTT working group from all area training commands.	Methodology: 1. Utilize Quality Advisors for TQL training. 2. Utilize ESC and staff meetings for tasking. 3. Rely on electronic communications increasingly. 4. ISO to add EMAIL. 5. Director of Training Staff to pursue CD-ROM.	Methodology: 1. Utilize Quality Advisors for TQL training. 2. Utilize ESC and staff meetings for tasking. 3. Instructional Systems Specialists revise curriculum. 4. Standardized software and hardware throughout command achieved by Department Heads.

Appendix A (Cont.)

Year 1	Year 2	Year 3
		5. ISO to add WINDOWS. 6. VTT Coordinator to effect classroom expansion.
Evaluation: 1. Continual feedback through TQL model channels. 2. Case-by-case handling of protocol disputes will lead to refinement of protocol. 3. Assign manager to each system: VTS, AIM and LAN. Manager to handle problems and complaints/ arrange for additional training.	Evaluation: 1. Same TQL feedback as Year 1. 2. Same protocol feedback as Year 1. 3. Administration Officer to update online documents/handle feedback.	Evaluation: 1. Same TQL feedback as Years 1 and 2. 2. Same protocol feedback as Years 1 and 2. 3. Course critiques to be used for all staff and student training.
Budget: TQL consultant cost is $1500/day. Unfunded requirement.	Budget: CD-ROM reader purchase requirements in excess of $400K. Will require dedicated funds from higher echelon.	Budget: WINDOWS upgrade in excess of $200K. Will require dedicated funds from higher echelon.

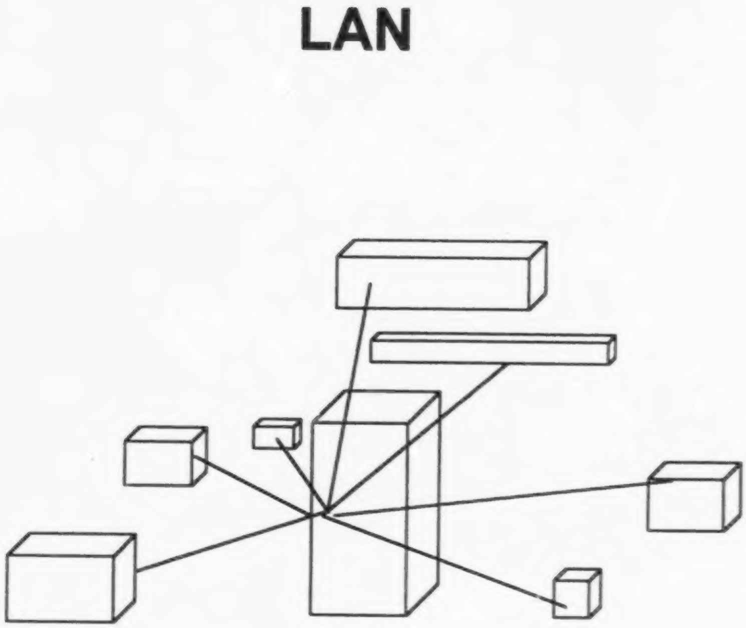
Appendix B

TQL Conceptual Model for Fleet Training Center



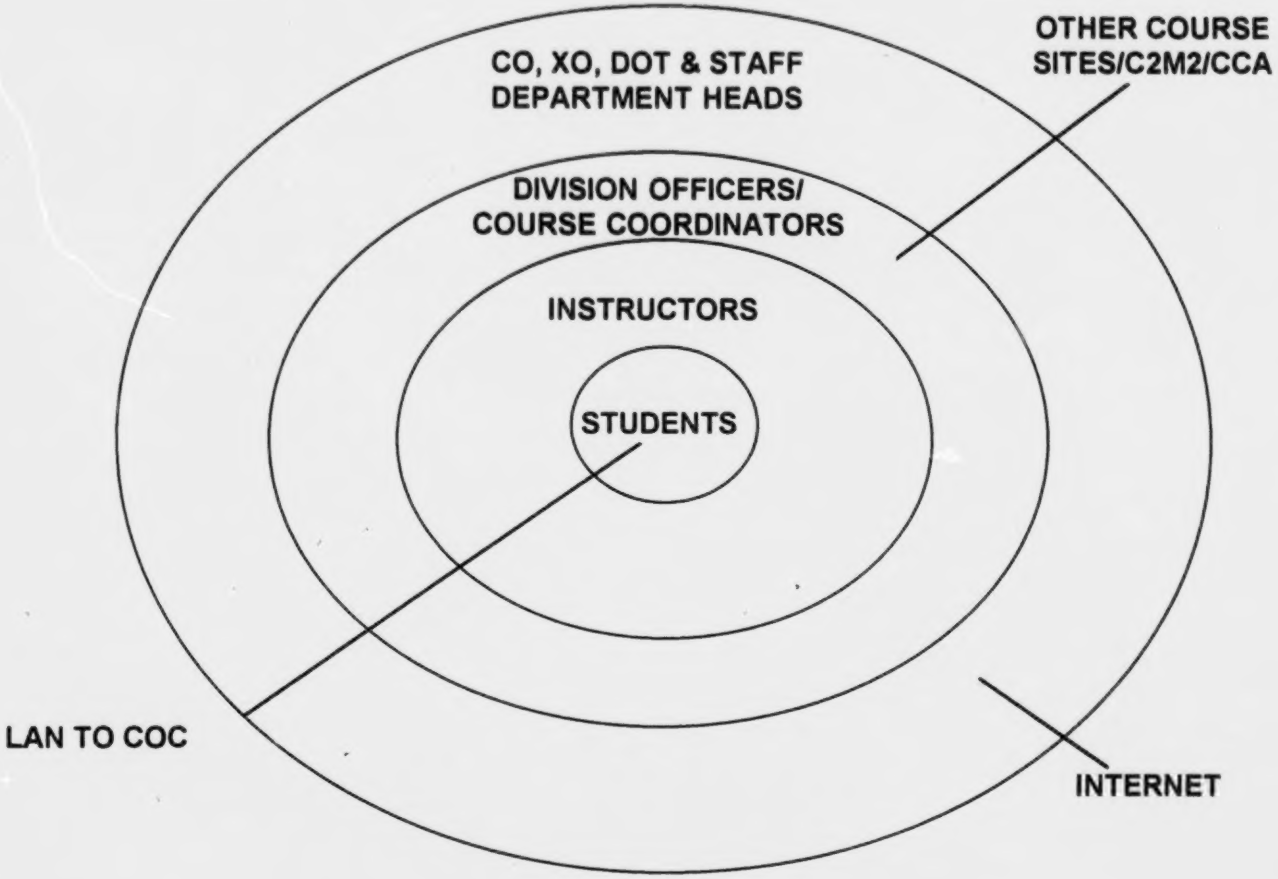
Appendix C

Fleet Training Center LAN Connectivity: Eight Buildings in Star Configuration



Appendix D

Fleet Training Center LAN Communications Concept


OTHER COURSE SITES/C2M2/CCA
CO, XO, DOT & STAFF DEPARTMENT HEADS
DIVISION OFFICERS/ COURSE COORDINATORS
INSTRUCTORS
STUDENTS
LAN TO COC
INTERNET

Appendix E

Amplifying Remarks on Costs

1. Estimated costs to upgrade the LAN for a WINDOWS environment exceed $200K. For this reason, programmed purchases are unrealistic and FLETRACEN will have to rely on higher echelon funding. Fortunately, fiber optic repair is a FLETRACEN course, so qualified instructors and maintenance personnel are onboard. It is expected that training can be conducted in house at no cost.

2. Training for VTS and AIM is provided at no cost to FLETRACEN, but is available on a limited basis. Access to remote computers is at no cost to government agencies. FLETRACEN will save on printing and mailing once electronic transfer of curriculum is possible. It is currently unclear how much phone line usage will have to be paid for. Some government lines are used at no cost.

3. VTT is funded by CNET.

4. The Commanding Officer will decide where to shift funds for any TQL consultant work he desires. Quality Advisors and the Command TQL Advisor are trained at no cost by the Navy.

DEVELOPMENT OF A COMMAND BRIEF VIDEO STORYBOARD FOR FLEET TRAINING CENTER, SAN DIEGO

Human Resources Development

Gail J. Palmisano
Fleet Training Center, San Diego

Donald Busche'
Orange County Cluster

A practicum proposal presented to Nova Southeastern
University in partial fulfillment of the
requirements for the degree of
Doctor of Education

Nova Southeastern University
June, 1994

INTRODUCTION

Fleet Training Center (FLETRACEN), San Diego is a U. S. Navy (USN) total quality schoolhouse providing training and support requirements to the U. S. Pacific Fleet in a safe learning and working environment. In addition to emerging as the premier general skills training facility on the west coast for USN students, FLETRACEN hosts students from more than a dozen foreign countries including Taiwan, Germany, and Brazil. The command needs a short, informative video presentation suitable for viewing by groups as diverse as reporting staff members, long term students, USN Flag Officers, and foreign dignitaries.

Nature of the Problem

The current command brief is a narrated 35mm slide presentation. Continued use of this brief is problematic because:

1. Presentation requires the presence of the Command Briefer or a substitute. More audiences have been identified who would benefit from viewing the presentation than the Command Briefer is personally able to appear before.

2. The 35mm slides are outdated and there is no free or low cost resource to replace these on a continual basis.

3. The current brief does not address FLETRACEN's implementation of Total Quality Leadership (TQL). It does not highlight TQL Quality in the Daily Workplace (QIDW) success stories (FLETRACEN, 1993) or other schoolhouse management issues which senior management believes audiences should hear about.

4. The current brief does not address training standardization issues (U. S. Navy, 1993, November).

5. The current brief is not presented in a medium that represents the state-of-the-art training facility image the command wants to project.

The impression the current brief gives of the use of training technology at FLETRACEN is outdated. This is particularly undesirable in light of the fact that FLETRACEN is the west coast hub for the Chief of Naval Education and Training (CNET) Electronic Schoolhouse Network (CESN) (Mooney, 1994, April).

Purpose of the Study

The purpose of the study is to develop the best storyboard for a single camera video presentation (Millerson, 1992 and Schihl, 1989). The video will then be shot by a Naval Education and Training Program Management Support Activity Detachment Pacific (NETPMSA DET PAC) photographer at no cost to FLETRACEN. This is possible because the NETPMSA mission is to provide training aid support to training commands.

Significance to the Institution

A well-researched and carefully-formatted video is intended to expedite the command familiarization process on the part of all intended audiences. It will do so by providing relatively static informative details on mission, organizational structure, physical layout and training offered. Significantly, such a video may be reproduced and shown to more than one audience at a time or viewed privately by a single person. Should these details change, NETPMSA DET PAC has the video editing facilities to update the video at no cost to FLETRACEN.

Review of Related Literature

A command brief in video format is intended both for presentation by a knowledgeable briefer and as a tool for distance learning (Verduin, 1991). Although the learner might gain more from an interactive videodisc presentation format, the cost and lack of available videodisc production resources are formidable obstacles. Other distance learning formats such as audiographics (Bradshaw, 1989, November and Bradshaw & Desser, 1990, September) are unnecessarily complicated because there is no perceived need for continual two-way communication with a remote site. A video teletraining (VTT) or video teleconferencing presentation is better suited to a transparency format due to the compression of the video image on FLETRACEN's current VTT system (personal communication, June, 1994). Additionally, such a presentation is manpower intensive and one desired goal of this project is to produce a stand-alone training aid.

Millerson (1992) outlines single camera videotaping techniques similar to those outlined by NETPMSA DET PAC representatives (personal communication, May, 1994). These techniques will be employed by a professional photographer, but it is helpful to develop a basic understanding of single camera techniques. Realistic storyboarding for a single camera will help ensure scheduled photography sessions are productive.

The FLETRACEN Head, Video Teletraining Division and at least one student completing his or her Master of Science in Educational Technology will critique the storyboard prior to production. NETPMSA DET PAC personnel will also provide assistance with editing the storyboard prior to production start.

Preliminary research reveals that several other USN commands in the San Diego area have produced video briefs. These may be used as models.

Relationship to the Seminar

This practicum is directly related to the Human Resources Development seminar in that the final product will help staff members as well as visitors arrive at a faster and more complete understanding of command function and values. Carnevale, Gainer and Meltzer (1990, p. 354) remind us that in every workplace "there is both an explicit or formal structure and an implicit or informal structure". An accessible command brief will facilitate competency in functioning within the organization by reducing the time it takes a new person to learn the formal structure and physical layout. This competency serves as the foundation for continued learning for maximum contribution.

This practicum is also directly related to the specialization in educational technology in that the final product will be utilized to produce a videotape. The project goal is to enable personnel to use technology to the greatest advantage in the learning situations outlined.

Research Questions

The first research question for this study is, "What information is contained in other command briefs in video format and how is that information presented?" The second question is "What information should be contained in the FLETRACEN presentation and how should that information be presented to the viewer?"

PROCEDURES

The developmental methodology will be used in this practicum. Five procedures will be used for its completion. First, a review of the literature will be completed. The review will include a search for materials available through the Educational Resources Information Clearing Center (ERIC), from Navy Personnel Research and Development Center (NPRDC), San Diego, and in books and periodicals. Descriptors which will be used in the search will include, but are not limited to: video, video technique, single camera video, storyboard, brief, training film, and presentation. The inclusion of descriptors for material which will describe camera technique is especially desirable as the review is expected to suggest ideas for storyboard subject materials which might otherwise be overlooked due to ignorance of video capabilities. The review will include the acquisition of practical information from personnel working or studying at FLETRACEN, including NPRDC personnel conducting research in the video teletraining laboratory facility.

Second, a committee of experts from each major department within FLETRACEN will be formed to serve as a formative and summative review committee. The members will be subject matter experts from the FLETRACEN training and support departments. Criteria for evaluating the storyboard will be developed based on the review of the literature and other data collected. The criteria will be presented to this committee for validation. Committee members will also serve as a sounding board for preliminary storyboard ideas. As experts on each department, the members will be able to highlight or suggest physical locations from which the cameraman will be able to videotape to optimize visual interest and insight to the viewer. Prior to finalization of the storyboard, the committee will examine the calendar of scheduled training evolutions to highlight and suggest possible unique "action shot" opportunities such as foreign military students using technical training equipment.

Third, other video briefs will be viewed to gain perspective on storyboard possibilities. During preliminary meetings or via electronic mail, committee members will be offered the opportunity to participate in the viewing of other video briefs, to meet with the photographer, and to tour the NETPMSA DET PAC video editing lab. Committee members will also be offered a training session on storyboarding to maximize the value of their contributions. It is desirable that committee members feel a measure of ownership in the creation of the storyboard because the final product will tell their story. A full explanation of the comments and actions of the committee will be included in the practicum report.

Fourth, a draft of the storyboard will be developed. The draft will be reviewed by the formative committee using the criteria. The following general criteria are provided as a developmental starting point: (a) information presented in the final product is complete in that it provides basic information about the FLETRACEN mission, organizational structure, physical layout and training provided; (b) information presented in the final product is accurate; (c) an appropriate level of detail has been included to ensure the purpose of the brief is met; (d) the final product is balanced in terms of time allotted to each topic, and (e) the final product will result in a video which is as short as practicable, with a target time of between nine and 15 minutes.

Fifth, the final storyboard will be reviewed by the Director of Training, the Executive Officer, the Commanding Officer, and other personnel suggested by the committee. The project will be complete when the Commanding Officer has approved the final storyboard, even if the storyboard is later revised to accommodate changes to the shooting schedule. A narrative of the final storyboard will be included in the appendix of the practicum report.

Assumptions

For this practicum, it is assumed that the NETPMSA photographer will have the expertise to produce videotape which mirrors the storyboard or to suggest alternative shooting options. It is further assumed that committee members will have the expertise to guide the development of this project and that they will be enthusiastic volunteers committed to training their peers through a more effective medium. Finally, it is assumed that the Commanding Officer, FLETRACEN, will approve this project.

Limitations

The scope of the practicum will be limited in that the final production video will not be a part of the practicum. This scope of this storyboard is limited to one USN activity.

Definition of Terms

For the purpose of this practicum, command brief is defined as an introductory presentation about

FLETRACEN. Additional terms will be defined in the practicum report, as required.

EXPECTATIONS

Anticipated Benefits

A command brief in video format for FLETRACEN will be produced as a direct result of the drafting and approval of this storyboard. It is anticipated that the final version of the video will be produced and available for use by the end of 1994. The final video will be a training tool, although the final video is not part of this practicum.

Importance to the Institution

The video will be able to be utilized in multiple locations simultaneously to facilitate understanding of command structure and function. If used as designed, people will be able to learn about the organization without a trained briefer. It will be possible to accommodate unanticipated briefing requirements with minimal stress. It will also be possible to export the brief to remote sites.

Improvement to the Educational Process

Due to the requirement for a trained briefer, the current command brief is not given to reporting staff members. The availability of this video will mean they will spend less time learning about the organization on their own. Utilization of the video will also mean that all visitors will receive identical information.

REFERENCES

Bradshaw, D. H. (1989, November). Audiographics distance learning: A guidebook for educators. San Francisco: Far West Laboratory.

Bradshaw, D. H. & Desser, K. (1990, September). Audiographics distance learning: A resource handbook. San Francisco: Far West Laboratory.

Carnevale, A. P., Gainer, L. J. & Meltzer, A. S. (1990). Workplace basics: The essential skills employers want. San Francisco: Jossey-Bass Publishers.

Fleet Training Center, San Diego (1993). Quality in daily work handbook. Unpublished manuscript used within FLETRACEN.

Millerson, G. (1992). Video production handbook. Oxford: Focal Press.

Mooney, JO2 R. (1994, April). Video teletraining. All Hands, pp. 33-35.

Schihl, R. J. (1989). Single camera video: From concept to edited master. Boston: Focal Press.

Schmidt, W. H. & Finnigan, J. P. (1993). TQM manager: A practical guide for managing in a total quality organization. San Francisco: Jossey-Bass Publishers.

U. S. Navy. (1993, November). Zero-based training and education review (ZBT&ER) final report.

Verduin, J. R., Jr. & Clark, T. A. (1991). Distance education: The foundations of effective practice. San Francisco: Jossey-Bass Publishers.

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July 4, 1994

Warren H. Groff, Ed.D.
1531 Peabody Avenue
Memphis, TN 38104

Dear Dr. Groff:

I appreciate the feedback and look forward to seeing you at Summer Session. Enclosed, please find:

a. HRD Paper 1, revised
b. HRD Paper 2, revised
c. HRD Paper 3 (4 pages only, revised)
d. HRD Practicum Proposal, latest version, but retaining June date to show when it was written

You have my permission as a private individual to use these materials as you see fit, however, I do not presume to speak for the United States Navy. I have, however, edited out names of persons, retaining titles only, and can see no objection to the use of this entirely unclassified organizational improvement material. It is my perception that if DOD is to utilize Total Quality, DOD activities should be prepared to share lessons learned. I have seen no evidence that this perception is invalid. In fact, I believe the Navy advocates sharing TQL success stories.

This material represents a snapshot in time portraying organizational growth. I hope portions of it will be of benefit to others embarking on this journey.

I have undertaken this coursework as a USN Education and Training professional and this coursework has been supplemented by government Tuition Assistance (TA). My Commanding Officer is aware that I am pursuing this course of study and is himself a TQL proponent.

Sincerely,

Gail Palmisano
GAIL J. PALMISANO

APPENDIX D

Development of a Video Training Model to Increase Realiability of Neonatal Instructor Grading at Crafton Hills College - Arnold L. Kosmatka

DEVELOPMENT OF A VIDEO TRAINING MODEL TO INCREASE RELIABILITY OF NEONATAL INSTRUCTOR GRADING AT CRAFTON HILLS COLLEGE

Human Resources Development

Arnold L. Kosmatka
Crafton Hills College

Warren H. Groff
Orange County Cluster

A seminar paper presented to Nova Southeastern University in
partial fulfillment of the requirements for the
degree of Doctor of Education

Nova Southeastern University

June 1994

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RATIONALE

History of the problem

Respiratory Care Practitioners have been involved in neonatal patient care for nearly twenty-five years. The Education of Respiratory Care Practitioners in Neonatal Intensive Care Units has evolved from on-the-job training to formal training in Colleges. The history of the equipment has changed greatly in the past five years and the medications we now use are totally different than in the recent past. The methods of neonatal education locally have not substantially changed in twenty years. I believe that now is the time to change the paradigm of Respiratory Care Practitioner Education and use a video-scenario instructional model.

Current Vision

My current action plan is to create a new training instrument that will be utilized to improve the assessment skills of the neonatal clinical instructor.

Future Application of Video Training

It is my belief that this video training model can be used for other segments of our curriculum. It could be used for training both clinical instructors and students in the application of new technologies and therapies on the horizon. Other programs on campus could also adapt this model to their curriculum.

GOALS AND OBJECTIVES

I envision this model being used both on campus and on the clinical site. The practicing neonatal therapist would not have to come to campus to receive instructor certification, thus conserving time and energy. The three goals for this project are:

1. Collaborate with the Advisory Board to make new instructional video-scenario training model.
2. Make a videotape following the Americal Association for Respiratory Care (AARC) Training Model.
3. To implement the instructional video for neonatal instructor training and evaluate effectiveness of model.

Goal 1.

Collaborate with the Advisory Board to make new instructional video-scenario training model.

The three objectives for this goal are to:

1. Coordinate the making of this instructional video with the Advisory Board to foster full support.
2. Involve the neonatal therapists in the design of the video and the check-list.
3. Select a subcommittee to actually make the video.

This instructional video project is scheduled to be in place in three years. In the first year the faculty will review current clinical syllabus and select which procedure should be used to make the first video.

We will involve the Advisory Board, the Hospital Medical Directors, the Crafton Hills College Respiratory Care Faculty and create a Neonatal Instructional Videotaping Committee to plan strategies and techniques for a patient care scenario.

The Advisory Board (see Appendix C) will meet in August and provide input regarding which hospital should be selected for the trial site. The neonatal personnel will be selected by this group and they will be invited to participate in this first videotaping.

The hospitals will be notified of this project by the Advisory Board and be given the opportunity to provide input. After the Advisory Board and the hospital directors have provided suggestions to the Crafton Hills College Medical Director, the Neonatal Coordinator will meet with a Neonatal Instructional Videotaping Committee to plan strategies and techniques for a patient care scenario. This committee will be responsible for selecting the patient care protocol (patient care procedure) and the writing of the check-list which will outline the procedure. The committee will submit a report including a script and the check-list to the Crafton Hills College Faculty for review. The college will provide the video equipment and VHS tapes as well as the secretarial support for typing and photo copying.

The first video will be filmed following the approved protocol and using the check-list. The video will be edited at the Crafton Hills College Resource Center. After the final tape has been approved it will be viewed by the Advisory Board and Medical Directors to obtain their support.

Goal 2

Make a videotape following the American Association for Respiratory Care training model.

Observing students in the patient care setting and assessing their skills is fundamental to clinical education. Both the clinical instructors and the students patient care skills must be uniform. We must change our paradigm in Respiratory Care Education. The paradigm we currently have does not produce uniformly trained Respiratory Care Practitioners. In the past the neonatal instructors have utilized their own experiences as the basis for assessing the competency of the students when grading them. I believe that the implementation of this project will streamline the educational process and objectify grading.

The three objectives for this goal are to:

1. Select a hospital as a trial site to implement instructional video.

2. Produce a video of one procedure commonly used in neonatal intensive care units.

3. Use existing AARC Training Video Series to inservice neonatal instructors.

4. Select five Neonatal Therapists to develop and use the new training model.

The Joint Commission on Accreditation of Respiratory Care Education (JRCRCE) recently changed the guidelines for program approval. The guidelines now require a outcome based model and are expecting to see changes in the methods of instruction. It is my belief that this new model will foster uniform competencies among both instructors and students.

Goal 3.

To implement the instructional video for Neonatal Instructor training and evaluate the effectiveness of video model.

One videotape scenario of a patient care technique would be used to introduce this method. The American Association for Respiratory Care Training Videos would be used again to contrast a successful training series to our new Neonatal Instructor Training Model. Successful implementation of the first video would be followed by a series of video scenarios which are written following approved and uniform patient care protocols and checklists. This third year we will evaluate the new training model by retesting the faculty and clinical instructors and gain consensus regarding continued use. The objectives of this goal are to:

1. evaluate first video and the AARC Training Model as a guide for making Neonatal series of videos.
2. evaluate participating therapists on accuracy in recognizing the correct flow on the checklist.
3. compare participating therapist on accuracy in recognizing incorrect flow on the checklist.
4. evaluate the therapists as they observe students performing patient care.

METHODOLOGY

We would produce a correct scenario checklist and a script to use in the evaluation of observational skills of the Neonatal Therapists. We would also produce an incorrect scenario checklist and script to use in the training of evaluational skills of he Neonatal Instructors.

Faculty consensus is essential and both checklists would be reviewed and tested for completeness. It is important to follow successful models if possible. Using the AARC Training Model as a success guide will save time and money. I would also follow Collins et al suggestions, using four key components of a video tape training programs. Collins sited the following:

> "Using Castorr et al as a guide, we administered a training program to subjects randomly assigned to the expiramental group.
>
> 1. defining the concept of interrater reliability and discussing its importance when employing skills-assessment-checklist instruments to evaluate student clinical performance.
> 2. reviewing a training manual with the subjects and discussing and defining the tasks and key performance elements for each observation category on the clinical-skills-checklist instrument.
> 3. viewing two videotaped scenarios that correspond with the checklist instruments and portray correctly performed procedures, and
> 4. responding to questions raised by subjects after interviewing the videotapes."

The dependent variable for the study will be subject scoring performance, to assess the clinical skills of respiratory care practitioners. The foundation for training our therapist will be existing videotapes provided by the American Association of Respiratory Care (AARC) for use by supervisory personnel who evaluate clinical performance.

The first segment of each videotape shows the procedure being correctly performed, whereas the second segment segment shows the same procedure except that certain steps are omitted or incorrectly performed. A clinical-skill assessment check-list and procedural specification form will be developed. Essential observational categories will be developed following the authorized protocol. Specific subcategorizes will be identified, recorded, and converted to a check-list. This process will be reviewed by the Advisory Board and Faculty several times until consensus is reached on the tasks shown and the key performance elements associated with each task are agree upon.

The Neonatal Committee will compare the check-list with the correctly performed videotaped scenario discrepincies until they reach consensus.

We will modify the video to clarify misunderstandings and correct discrepancies. The faculty will be asked to compare the training material with the evaluation instrument to establish content validity.

To establish interrater reliability, the faculty and the Neonatal Committee will view the tape incorrectly performed while competing the corresponding clinical-skills-assessment check-list. The Committee will reach consensus regarding the incorrectness of the procedure.

The results from the two check-lists, contrasting the correctly and the incorrectly performed procedure will be used to reach consensus relative to the scoring system used to evaluate the observational skills of the neonatal therapist. A script will be published and distributed to all concerned for each video to assure that all participants receive the same training.

EVALUATION

Students will be interviewed regarding their experiences and feelings regarding the new grading/instructional system.

Data will be gathered contrasting the accuracy in following the clinical-skills-checklist in both the simulated and clinical models. Student performance will be reviewed for comparison to the old method. We will compare competency levels and grading of students over a three year period.

Misunderstandings and discrepancies will be clarified and recorded for comparison to the faculty and Neonatal Committee.

The challenge of this project will be evaluating the performance of the volunteer clinical instructors. Collins et al states that: "...little information exists in the literature to guide the educators in developing, implementing, and evaluating formal training for clinical instructors."

Collins further states that:

> "...valid and reliable assessment of student clinical performance should
> 1. result in objective data to assist educators in making formative and summative decisions about student academic progression- thus increasing the likelihood of better patient care and reducing faculty exposure to litigation.
> 2. result in greater learning when student performance data are used to reformulate instruction, and
> 3. demonstrate to accrediting agencies and other communities of interest that stated educational goals are being achieved."

We will used a second hospital and select five more therapists to train in the second year.

In the third year we will develop a third neonatal video, a third hospital and select five more neonatal therapists for inclusion into our program.

CONCLUSIONS

I believe that the objective data we receive will assist us in making formative and summative decisions regarding both student and instructor performance. I also believe that using formatted instruction will result in greater student learning and decreased faculty and college liability. We will be able to demonstrate to the accrediting agency that we have achieved our stated goals. The students will feel that they received objective training and grading. The Neonatal Therapists will be asked to evaluate the new model. Their comments will be shared with the Advisory Board and Faculty to further clarify the developments process.

We will being slowly with one hospital and five neonatal therapists and move through the second and third years to a fully operational program. Other observations that will be made, although not part of this study, regarding how this program effects the neonatal therapist performance on the job.

The faculty and hospital employees will gain a better understanding of each others assumptions and standards of practice in the neonatal intensive care unit.

The educational process will benefit from this new model.

REFERENCES

Nichol, J. O. (1989). Institutional effectiveness and outcomes assessment implementation on campus: practitioner's handbook. New York Agathon Press.

Joint Review Committee for Respiratory Therapy Education (1986) (JRCRTE). Essentials and guidelines of an accredited educational program for the respiratory therapy technician and respiratory therapist. Euless, TX.

Collins, D. L. (1994) Assessing the Effectiveness of Observation Training for Clinical Instructors. Respiratory Care Journal.,4, 906-915.

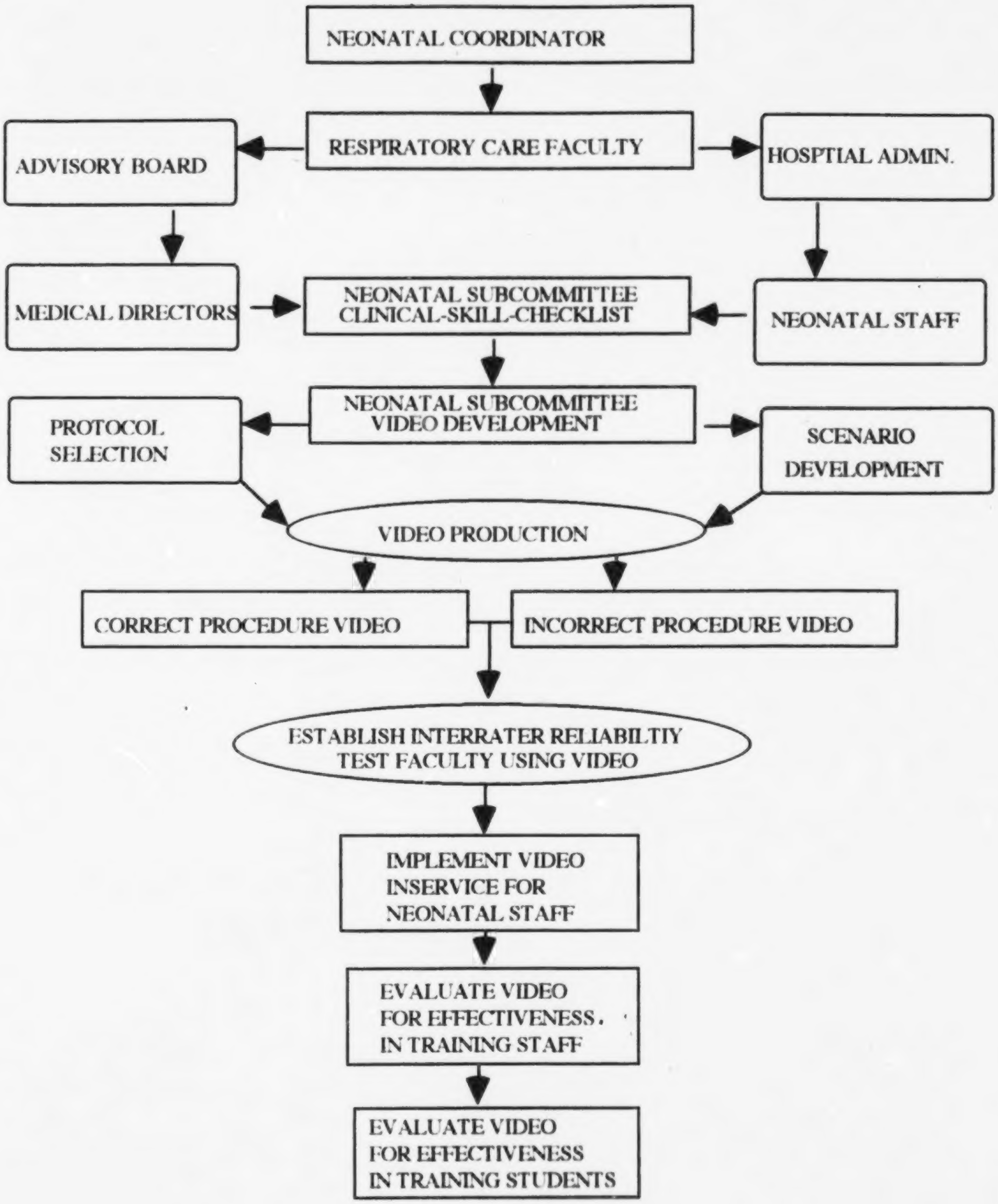
Castor, A. H. (1990). The process of rater training for observational instruments: implications for interrater reliability in research. Res Nurs Health 13, 311-318.

Lobo, D. (1994). Intubation Training for Medical Students using videotape at Loma Linda Medical Center.

Brook, D.W., & Daniels, N., (1994). Ethical Foundations of the Clinton Administration's Proposed Health Care System. Journal of the American Medical Association.

Respiratory Care Practitioner,(1992). Delineating The Educational Direction For the Future American Association of Respiratory Care., Year 2001 Study.

APPENDIX A


NEONATAL COORDINATOR
RESPIRATORY CARE FACULTY
ADVISORY BOARD
HOSPTIAL ADMIN.
MEDICAL DIRECTORS
NEONATAL SUBCOMMITTEE CLINICAL-SKILL-CHECKLIST
NEONATAL STAFF
PROTOCOL SELECTION
NEONATAL SUBCOMMITTEE VIDEO DEVELOPMENT
SCENARIO DEVELOPMENT
VIDEO PRODUCTION
CORRECT PROCEDURE VIDEO
INCORRECT PROCEDURE VIDEO
ESTABLISH INTERRATER RELIABILTIY TEST FACULTY USING VIDEO
IMPLEMENT VIDEO INSERVICE FOR NEONATAL STAFF
EVALUATE VIDEO FOR EFFECTIVENESS. IN TRAINING STAFF
EVALUATE VIDEO FOR EFFECTIVENESS IN TRAINING STUDENTS

LONG RANGE GOAL: DEVELOP A VIDEO TRAINING MODEL TO INCREASE THE RELIABILITY OF NEONATAL INSTRUCTOR GRADING.

GOALS:(1) COLLABORATE WITH THE ADVISORY BOARD TO MAKE NEW INSTRUCTIONAL VIDEO-SCENARIO TRAINING MODEL.
(2) MAKE A VIDEOTAPE FOLLOWING THE AARC TRAINING MODEL.
(3) TO IMPLEMENT THE INSTRUCTIONAL VIDEO FOR NEONATAL INSTRUCTOR TRAINING AND EVALUATE THE EFFECTIVENESS OF THE VIDEO SCENARIO MODEL.

YEAR 1

OBJECTIVES:
1. COORDINATE THE MAKING OF INSTRUCTIONAL VIDEO WITH ADVISORY BOARD TO FOSTER FULL SUPPORT.
2. INVOLVE THE NEONATAL THERAPISTS IN THE DESIGN OF THE VIDEO AND THE CLINICAL-SKILLS-CHECKLIST.
3. SELECT A SUBCOMMITTEE TO MAKE THE INSTRUCTIONAL VIDEO.

METHODOLOGY
1. UTILIZE ADVISORY BOARD AS RESOURCE TO PLAN VIDEO.
2. USE WORKSHOPS TO INVOLVE THERAPISTS.
3. DEMONSTRATE OF AARC TRAINING SERIES TO ADVISORY BOARD AND SUB-COMMITTEE.

EVALUATION
1. STUDY NEEDS OF STUDENTS AND INSTRUCTORS IN VIEW OF GOALS.
2. REVIEW FEEDBACK FROM ADVISORY BOARD AND SUBCOMMITTEE.
3. REVIEW LIST OF EQUIPMENT NEEDED FOR PROJECT.

BUDGET:
1. $100.00 FOR BLANK VIDEOTAPES
2. $200.00 FOR AARC VIDEOTAPES.
3. $500.00 FOR FACULTY OVERTIME.

YEAR 2

OBJECTIVES:
1. SELECT A HOSPITAL AS A TRIAL SITE TO IMPLEMENT INSTRUCTIONAL VIDEO.
2. PRODUCE A VIDEO OF ONE PROCEDURE COMMONLY USED IN NEONATAL INTENSIVE CARE.
3. USE EXISTING AARC VIDEO TRAINING SERIES TO INSERVICE NEONATAL INSTRUCTORS.
4. SELECT FIVE NEONATAL THERAPISTS TO DEVELOP AND USE NEW TRAINING MODEL.

METHODOLOGY
1. PROVIDE EQUIPMENT AND VIDEOTAPES TO SUBCOMMITTEE
2. RESEARCH PATIENT CARE SCENARIOS FOR VIDEO PRODUCTION.
3. INVOLVE THERAPIST IN PLANNING SCENARIO.
4. STUDY AARC TAPE SERIES FOR ADAPTATION TO NEONATAL MODEL.

EVALUATION
1. STUDY FEEDBACK FROM THERAPISTS WHO PLANNED AND EVALUATED VIDEO.
2. UTILIZE RESEARCH OF PATIENT CARE SCENARIOS TO DESIGN CHECKLIST.
3. STUDY EFFECTIVENESS OF INSERVICE USING AARC SERIES AS A MODEL FOR NEONATAL INSTRUCTION

BUDGET
1.$500.00 INSTRUCTIONAL HOURLY SALARY FOR TRAINING INSTRUCTORS.
2. $500.00 FOR INSTRUCTIONAL HOURLY SALARY FOR FACULTY OVERTIME.

YEAR 3

OBJECTIVES:
1. EVALUATE FIRST VIDEO AND THE AARC TRAINING MODEL AS A GUIDE FOR MAKING NEONATAL SERIES OF VIDEOS.
2.EVALUATE PARTICIPATING THERAPISTS ON ACCURACY IN RECOGNIZING THE CORRECT FLOW OF THE CHECKLIST.
3. COMPARE PARTICIPATING THERAPISTS ACCURACY IN RECOGNIZING INCORRECT PROCEDURE .
4. EVALUATE THE THERAPIST AS THEY OBSERVE STUDENTS PERFORMING PATIENT CARE.

METHODOLOGY
1. PRODUCE A CORRECT SCENARIO CHECKLIST SCRIPT.
2. PRODUCE AN INCORRECT SCENARIO CHECKLIST SCRIPT.
3. GAIN CONCESUS OF FACULTY ON BOTH CHECKLIST SCRIPTS VALIDITY.
4. STUDY SUCCESSFUL ELEMENTS OF AARC VIDEO SERIES AS A MODEL FOR NEONATAL SERIES.

EVALUATION
1. INTERVIEW STUDENTSAND NEONATAL THERAPISTS REGARDING INSTRUCTIONAL METHOD.
2. CONTRAST LEVEL OF ACCURACY OF THERAPISTS USING VIDEO MODELS.
3. REVIEW THE DATA REGARDING STUDENT PERFORMANCE BEFORE AND AFTER NEW TRAINING MODEL.

BUDGET
1. $300.00 FOR VIDEO TAPES.
2. 500.00 FOR INSTRUCTIONAL HOURLY SALARY FOR FACULTY OVERTIME

ADVISORY BOARD

- Riverside Community Hospital
    - Jeff Simons, M.D.
    - Susan Musselman, R.R.T.
- Redlands Community Hospital
    - Enrique Gill, M.D.
    - James Wogan, R.R.T.
- St. Bernardine Hospital, San Bernardino
    - Hugh Haegelin, M.D.
    - Don Broman, R.R.T.
- V.A. Hosptial, Loma Linda
    - Leonard Specht, M.D.
    - Jennifer Anderson, R.R.T.
- Crafton HIlls College, Dr. Richard Sheldon, M.D. Med.Dir.
    - Dr. Ron Kibby, Assist. Dean Occupational Health
    - Tony Brainard, R.R.T.
    - Ken Bryson, R.R.T.
    - Bradley Franklin, R.R.T.
    - Arnie Kosmatka, R.R.T.
    - Kathy Taylor, R.R.T.
    - Gary Hulten, R.R.T.
- Riverside General Hosptial
    - Douglas Hegsted, M.D.
    - Larry Kelsey, R.R.T.

BUDGET

The budget for this project is relatively simple.

First year . . .	$100. for blank videotapes.
	$ 200. for AARC video series.
	$ 500. for faculty overtime.
Second year	$ 500. for part time salaries.
	$ 500. for faculty overtime.
Third year	$ 300. for videotapes.
	$ 500. for faculty overtime.

For a total of . . . $2,600.00

I can not estimate the cost of typing or reproduction of written materials, because the secretary will do these at here own speed and use available materials.

MEMORANDUM

June 21, 1994

To: Dr. Groff

From: Arnold Kosmatka

Subject: Human Resources Development Seminar, June 1994.

Dr. Groff, thank you for a great seminar. I received your letter of June 14, 1994 regarding the report you will write for HRD in Orange Co. and the possibility of including my paper in it.

I am happy to authorize the use of the enclosed material , DEVELOPMENT OF A VIDEO TRAINING MODEL TO INCREASE RELIABILITY OF NEONATAL INSTRUCTOR GRADING AT CRAFTON HILLS COLLEGE, and agree to the publication.

Again, Thank you. I am looking forward to seeing you again at the summer seminar.

Regards,

Arnie.